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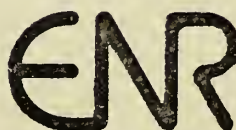
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# ILLINOIS LAND REPORT RICE LAKE CONSERVATION AREA

Comments and Responses  
Appendices  
References

August 29, 1983

Volume II



Illinois Department of  
Energy and Natural Resources

Illinois Lands  
Unsuitable for Mining Program

James R. Thompson, Governor  
Michael B. Witte, Director

Printed by the Authority of the State of Illinois

DOC. NO. LR 83/01

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August 29, 1983

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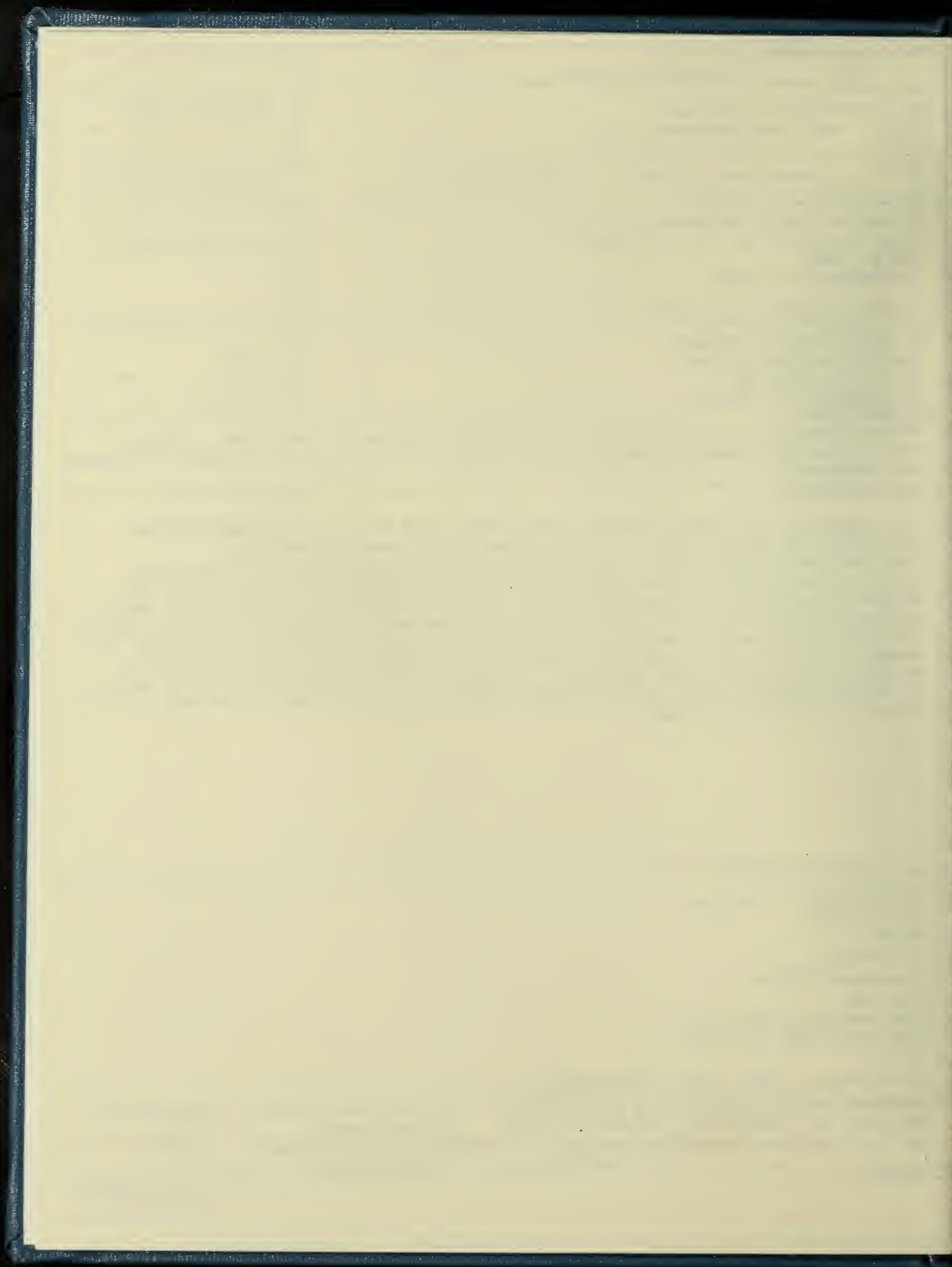
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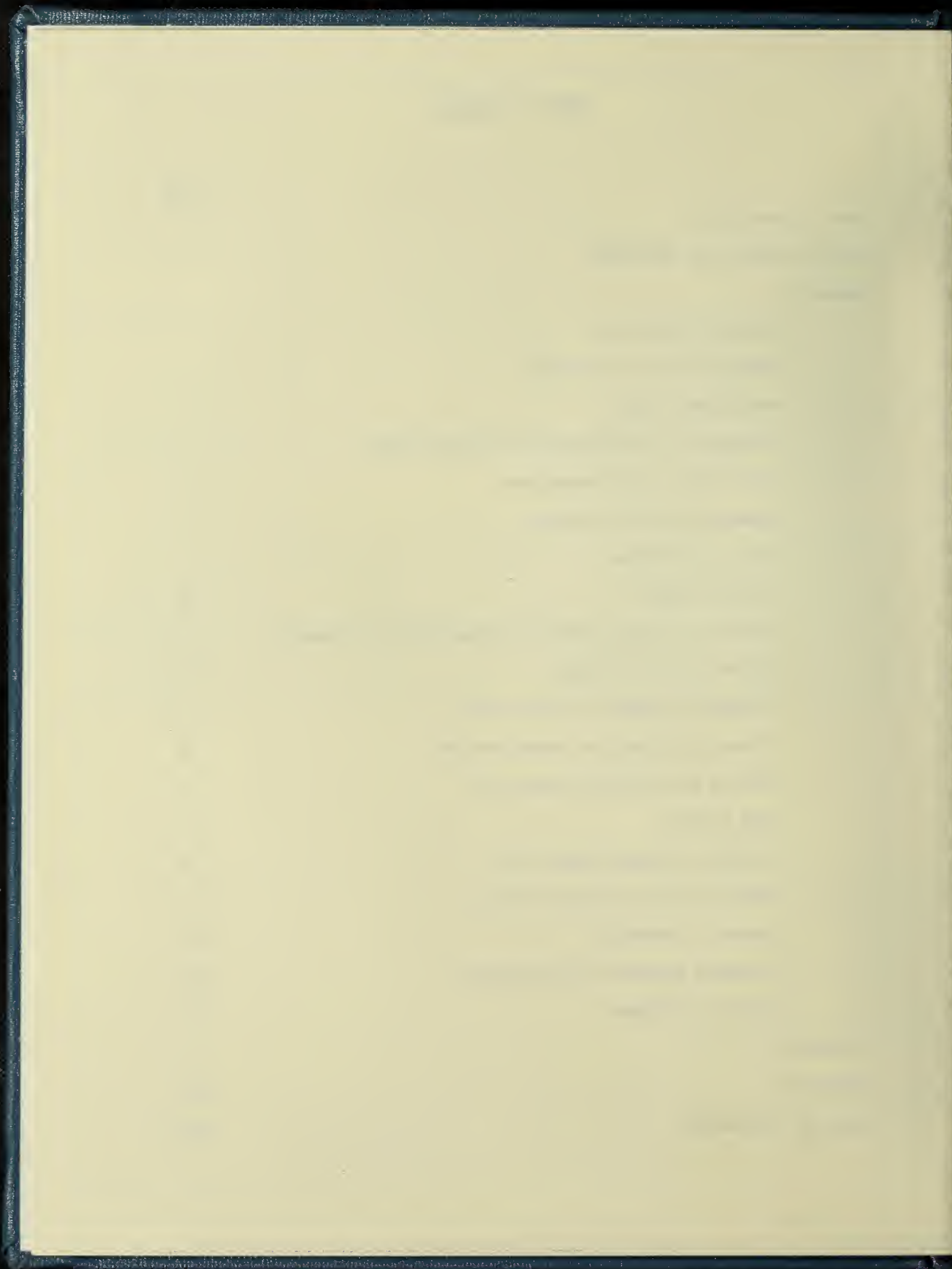
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## PUBLIC COMMENTS AND RESPONSES

This section of the Land Report responds to written comments made by citizens and organizations on the content of the report. Comments were received from 19 citizens and groups, who had over 175 comments. The comment period on the draft Land Report was from July 15 to August 15, 1983. ENR appreciates the interest shown and has responded to each comment.

The format for this section includes each commentator, followed by their comments and ENR responses. Without altering the content of the comment, ENR has shortened many of the comments found within this section. In addition, ENR has omitted the introduction and conclusion to each letter received from commentators. However, a complete copy of each letter received can be found in Appendix W.

While some interested citizens may not have been able to respond to the draft Land Report within the comment period, they can still submit comments on the final report, or on the Rice Lake mining issue in general, up to the public hearing date. Such comments should be sent to:

The Illinois Department of Mines and Minerals  
Land Reclamation Division  
227 S. Seventh St., Room 204  
Springfield, IL 62706

The Department of Mines and Minerals (DMM) will hold a public hearing on this unsuitability petition between October 25 and October 27 at the Canton High School. Notice on exact time and date will be forthcoming. Interested citizens may prepare and give oral testimony at the public hearing.



COMMENTOR: Richard C. Anderson, Augustana College

Comment #1

In the Summary of Findings, pages 29 & 30, reference is made to 2.3 million tons of processing wastes containing highly toxic materials low in plant nutrients which will be generated by mining at RLCA. (See page XI-6 for estimated quantities of zinc and cadmium.) Whereas the statement is made that this will require "environmentally sound disposal techniques," no specifics are included regarding how this disposal will be accomplished. Disposal is of critical importance at Rice Lake because of its floodplain location and potential for degrading both surface and ground water. Although the coal may be cleaned and the wastes disposed of at the Buckhart Mine, the disposal of wastes generated and accumulated at the RLCA is not addressed.

ENR Response:

The Illinois Surface Coal Mining Land Conservation and Reclamation Act contains rigorous requirements for the handling and disposal of processing wastes. In addition, the Act requires that specific information be submitted with a surface mining permit application to allow the Department of Mines and Minerals to evaluate the potential environmental consequences of the proposed mine plan prior to onset of mining. Parts 1816.81 through 1816.94 and 1816.103 of the Regulations establish performance standards to be met by a surface mining operation in the area of processing waste disposal. These parts are quite specific about providing that the mining operation must show, "using hydrologic, geotechnical, physical and chemical analysis, that disposal of these materials does not --

- (1) Adversely affect water quality, water flow, or vegetation;
- (2) Create public health hazards, or
- (3) Cause instability in the disposal areas."

The Act also provides for on-site inspection of disposal facilities, for water (surface and groundwater) control measures around processing waste banks, for construction requirements for waste banks, for time requirements for completion of covering of wastes, and for treatment of acid-forming and toxic-forming waste materials.

These requirements assure that the Department of Mines and Minerals will have sufficient information in its possession during the review of a surface mining permit application to judge the adequacy of the proposed approach. At that time, the Department can stipulate additional safeguards that must be implemented or can deny the application if the proposed waste handling approach is not environmentally sound. Because the Act will require a future applicant to address this issue with site-specific analytical data, the authors feel that the resolution of the



questions of the potential toxicity of processing waste at Rice Lake and the adequacy of the applicant's plans to dispose of the waste will be thoroughly addressed by the Department of Mines and Minerals when it reviews a permit application.

The composition of the processing wastes generated by the Rice Lake mining operation will depend on the type of processing system used, the mining technique, and the composition of the materials mined. We have no information that suggests that the processing wastes generated by the Rice Lake mining would be any more or less toxic than wastes produced at other mines in the region.

It is the authors understanding that Freeman United would not conduct any coal processing or processing-waste disposal operations at the Rice Lake locality. Rather, processing and disposal of wastes would take place at the Buckheart facility. Of course, this understanding is not based on information in a permit application (none has been submitted) and is not binding on Freeman United or any other coal company that might choose to mine the area. If the assumption is made that this plan would be followed, then no processing wastes would be produced at Rice Lake. The authors do share the concern of Dr. Anderson that processing wastes should not be disposed of at Rice Lake because of its location in the floodplain of the Illinois River.

#### Comment #2

The third paragraph on page 37 of the Summary of Findings states that "since Rice Lake is not a source for water supply in the area, allegations suggesting that its loss will adversely affect regional surface water supplies appear to be unjustified." Similar statements are also made on pages 48, XI-8 and XI-26. Although Rice Lake itself is not used for water supply, it is hydrologically connected with the surface water of the Illinois River and nearby shallow groundwater aquifers which are used for water supply. Mining will probably not affect the quantity of water available, but it will surely affect its quality.

#### ENR Response:

With regard to groundwater, the conclusion reached by the commentor above is similar to that found in the Land Report on pages 49 and XI-18 which state: "The quality of groundwater in the shallow aquifer underlying the RLCA would be adversely affected by surface mining." With regard to surface water, abundant other existing or potential surface water supplies exist in the area as discussed in the response to Williams Comment #2.



Comment #3

At the bottom of page 37 of the Summary of Findings it is stated that "the proposed levee and coal mining operation in Rice Lake will have little or no effect on wetland habitat outside the levee," and at the top of page 38, "that a reclaimed Rice Lake will be better able to meet IDOC management goals than the existing lake." A similar statement is also made on page XI-28. Surely dewatering of the mine and disposal of this water outside the levee will affect the surrounding wetland habitat, particularly in view of the fact that during mining this water will carry large dissolved and particulate loads.

ENR Response:

The text has been revised in response to this comment. See also Citizens for Preservation of Knox County Comment #5.

Comment #4

In the first full paragraph on page 48 of the Summary of Findings, the shallow groundwater is described as "very hard, with a high iron content." This is substantiated by the data of Table V-1, page V-15. The report does not address the question whether this high iron and high sulfate content might be a result of prior mining upstream at Banner Marsh.

ENR Response:

This contention is not specifically addressed in the Land Report. However, the presence of a groundwater divide near Copperas Creek, north of the RLCA and between the RLCA and Banner Marsh (p. V-8), implies that the degradation of water quality in this manner is unlikely.

Comment #5

The quality of groundwater in the RLCA is compared with that of Banner Marsh on page 49 of the Summary of Findings and on page XI-19. I was unable to find the data upon which these comparisons were made. Table V-1 contains no information on water quality in Banner Marsh. Table XI-1 (page XI-30) does not show the location of Sunspot Lakes. They do not appear to be in Banner Marsh.

ENR Response:

The table of data comparing groundwater quality in the RLCA and Banner Marsh was missing in the draft version of the Land Report. It has been included as Table XI-1 in the final version.

Comment #6

At the bottom of page 52 and continuing on to page 53 of the Summary of Findings the quality of the water in Rice Lake is considered to depend on whether the lake and the Illinois River are independent. A similar statement is also made on page XI-28 and XI-29. This independence is strictly a matter of degree because exchange of water between the lake and the river will occur, if not as surface, then as subsurface flow, and this exchange will be in both directions depending on the stage of the river. Whereas exchange will dilute, hence improve, the mineralized water of the reconstituted Rice Lake, it will degrade the quality of Illinois River water.

ENR Response:

On page 52-53 of the Summary of Findings the report stated that the lake water quality will be similar to that of the river water. The authors agree that Rice Lake and Illinois River are dependent. Construction of a levee will tend to make the land and the river more independent.

Comment #7

The effect of withdrawal of 4,500 acres of floodplain storage on flood stages of the Illinois River is considered on pages 60 and 61 of the Summary of Findings and on pages XI-23, XI-25 and XI-27. It is concluded that the effect would be to increase the stage of the 10-year flood by 0.14 foot. What effect would it have on the 100-year flood? Though 0.14 foot may be minimal, it contributes to an accumulative effect of other levees so that the total effect becomes significant.

ENR Response:

The detailed information for 10-, 50- and 100-year floods is included in Section XIX (Surface Water) of the revised report.

Comment #8

On page 61 of the Summary of Findings, page III-57, page XI-8 and page XI-16 reference is made to "sand and gravel deposits that are hydraulically connected with lakes or with the river outside the mine area" which "might yield significant volumes of water to the mine pit." This is a potentially serious problem, the solution of which is not adequately considered in the Land Report.

ENR Response:

The influx of water to the mine pit through sand and gravel deposits was not addressed in the draft version of the Land Report. A statement regarding this problem has been included in the final version (Chapter XI). See also the response to Comment #3 of the Citizens for the Preservation of Knox County.

Comment #9

"Springs and seeps which appear along the bluff ..., in the absence of evidence to the contrary, are assumed to be the result of seasonal surface drainage," (bottom of page V-16). A related statement is made on page V-22, "the small tributaries flowing into Rice Lake are most often dry." According to local residents, many of these springs and seeps, and at least one of the small streams draining the bluff (Baxter Creek), are perennial, suggesting that they are fed by more significant groundwater sources than those supplied solely by seasonal precipitation. Thus the flow duration curve on page V-23 (figure V-4) may not be typical of this portion of the bluff, perhaps because of the presence of relatively impermeable Pennsylvanian bedrock high in the bluff which inhibits downward movement of water and promotes lateral movement toward the bluff face.

ENR Response:

Two flow systems were considered to explain the presence of seeps and springs along the bluff (Chapter V - Groundwater Flow System). In the first of these, bedrock units were hypothesized as the source of these discharge points. Application of boundary conditions led to the conclusion that "flow in the bedrock aquifer system may be measurable, but is considered negligible" on the basis of comparison with estimated flow in the shallow, non-indurated aquifer. This conclusion, in turn, provided the basis for the statement in question.

The conclusion that bedrock flow is "measurable, but negligible" implies that flow contributions from the bluff area are a combination of bedrock flow and recharge derived from seasonal precipitation. Estimates of recharge are average values, reflecting a period of greater length than a single event or season. Recharge will vary in response to precipitation events, while bedrock flow will remain essentially constant. During dry



periods, bedrock contributions to flow from the bluff areas could equal or exceed that portion of flow derived from precipitation. Since bedrock flow is essentially constant, these seeps and springs, depending on their individual flow rates, could be considered perennial.

The allegation that these seeps and springs are perennial does not alter the concept of the groundwater flow system. Their contribution to the regional hydrologic balance is small. While flow rates from them could be increased during mining (by increasing the head differential), they will "remain after mining, if heads in the affected area return to their approximate premining levels, as is likely" (Section XID).

It should be noted that recharge during the first half of 1983 has created near normal water levels in shallow aquifers in west central Illinois (see response to Citizens for the Preservation of Knox County, Comment #4).

Comment #10

"If even a remnant of Duck Island remains, the petition area would remain isolated from the head changes in the river because of the extremely low permeability of the bedrock units" (page XI-16). This statement ignores the high permeability of the thick sand and gravel at the south end of Duck Island.

ENR Response:

The concluding remarks of the section regarding the changes in groundwater flow patterns (Section XID) states: "Flow through the sand and gravel deposits on the south end of Duck Island would gain greater importance." This conclusion was based on the premise that a localized area near these deposits would respond to fluctuations of the Illinois River. The statement in question does not acknowledge this phenomenon, and has been amended to read "... the petition area would remain generally isolated from head changes in the river ..."

Comment #11

One effect of dewatering the mine would be the dewatering of domestic wells along the base of the bluff (pages 52, XI-21). The prospect of deepening these wells and utilizing significantly lower quality and more expensive water from the deeper aquifer is not very attractive for these residents.



ENR Response:

The Land Report describes alternate, less desirable sources of water and states that their use may be required near the petition area. Further study of this issue is considered to be beyond the scope of the Land Report.



COMMENTOR: Audubon Council of Illinois, Marvin P. Schwartz, President

Comment #1

Section XI, page 49, lines 11-15

Delete lines: Although mining and reclamation procedures at Rice Lake probably would differ considerably from those used at Banner Marsh, the two areas have many common features indicating that the most reliable approach to reforestation planning for Rice Lake would be to initiate pilot experiments at Banner Marsh as soon as possible.

Reason for change: Banner Marsh no longer has any resemblance to Rice Lake and is a poorly reclaimed area. Soils are no longer similar nor were they ever similar.

ENR Response:

The sentence has been deleted. Conditions at Banner Marsh have been too greatly altered to reflect any similarity that may have existed between Banner Marsh before mining and Rice Lake at present. Also, reclamation procedures at Rice Lake would undoubtedly be very different from those employed at Banner Marsh.

Comment #2

Section XI, page 49, line 17

Change to read: Prediction of Negative long-term change in the value of the timber resources is justified.

Reason for change: Previous documentation in land report supports this conclusion.

ENR Response:

The expected change in value with mining has been changed from "no change" to "unpredictable." Timber management is not currently practiced at Rice Lake so it is possible that if mining and reclamation lead to the establishment of silvicultural practices, timber value of the area could ultimately exceed that of the present forest. If the reclamation plan did not place a high priority on timber management, the long-term value of the timber resource might well be less than at present.

Comment #3

Section XI, page 50, lines 11-19

Change to read: A well designed and executed reclamation would not result in an overall increase in the value of the area for migratory waterfowl, since recent waterfowl counts as high as 85,000 already tax the area's ability to support such large numbers. This high usage by waterfowl suggests the area already has the ingredients needed to support large numbers of waterfowl and this would be difficult to improve upon by the reclamation after mining.

Reason for change: Evidence in Chapter VII, page 30, lines 4 and 5 of Land Report.

ENR Response:

Currently, the area is only able to support large numbers of waterfowl species that prefer moist-soil food plants. If a reclamation program were designed to provide aquatic and moist-soil food plants, a greater species diversity and total number of waterfowl could be supported by the area. Also, a levee would allow better water level control to optimize conditions for migratory ducks and geese.

Comment #4

Section XI, page 50, line 20

Change to read: Given relatively clear and stable water levels, Rice Lake ~~again~~ (delete) could be .....

Reason for change: Rice Lake is currently a marsh area as supported by the use of the area by ducks, herons and cormorants.

ENR Response:

The suggested deletion has been made.

Comment #5

Section XI, page 51, lines 11-14



Change to read: Although remnant forest patches may remain for Wood Duck rearing there will not be water adjacent to these areas and the Wood Ducks will not be willing or able to move their young north through mining area to Round Pond.

Reason for change: Mining disturbances and distance will not permit Wood Ducks to move young from nesting area to open water of Round Pond.

ENR Response:

Mining would not disturb the entire petition area during the entire mining period, so it is possible that Wood Ducks will continue to nest in parts of the area during parts of the mining period. Consequently, remnant forest patches should be carefully protected and water bodies should be maintained until mining of the section under consideration is about to begin.

Comment #6

Section XI, page 52, line 6

Change to read: Lowering of the water table to dewater mining areas will render these areas .....

Reason for change: The drying out of these habitats will make them unsuitable for amphibians and reptiles.

ENR Response:

The text has been changed to reflect this comment.

Comment #7

Section XI, page 55, line 2-5

Change line starting with "If" to read: Post reclamation food conditions for eagles would not improve over present conditions because, as evidenced by their usage, current water conditions and fish populations are favored by Bald Eagles.

Reason for change: There is no supportive evidence in Land Report, or elsewhere, that a reclaimed Rice Lake would be more to the liking of Bald Eagles. From their usage, evidence is clear they prefer the current

habitat. The stress of finding different winter habitat could cause the loss of many Eagles.

ENR Response:

The sentence to which the commentor refers has been deleted. The bald eagles' preference for areas where dead and dying fish are available is provided by Rice Lake in its current condition.

COMMENTOR: Christopher Bronny

Comment #1

[The text on page VII-7, par. 2]

Currently reads: "Most aquatic plant beds have been eliminated and marsh plants have been reduced drastically as the result of decreased light penetration and the unconsolidated nature of the lake sediments" should be changed to:

[Should be] changed to read: "Most aquatic plant beds have been eliminated and marsh plants have been reduced drastically as the result of fluctuating water levels, decreased light penetration due to the unconsolidated nature of lake sediments, and the heavy application of herbicides used to control aquatic plant growth during the 1950's."

The evidence for "fluctuating water levels" is confirmed by the natural and artificial (man-made) influx of water from the Illinois River to Rice Lake. The raising and lowering of Rice Lake water levels through the use of levees and culverts by the DOC results in lowered lake levels during late spring, and raised levels during autumn. The purpose of this draw-down and flooding, respectively, is to promote small grain crop production, and to improve hunting in and around the conservation area. A dramatic, sudden rise and fall of water levels (as evidence by waterfowl hunting enhancement techniques in the spring and fall) could have an adverse effect on native marsh and aquatic plant communities.

The "heavy application of herbicides to control aquatic plant growth during the 1950's" is documented by various individuals (Bellrose at Morton Arboretum, 1981; DOC personnel at a Peoria public hearing in 1981; and eye-witnesses to the event). There were two accountable applications: One was the aerial spraying of the herbicide, and the other method was by direct application of the herbicide into the water from the back of a boat. Apparently, the aquatic vegetation interfered with motor boat use in the Rice Lake area. Complaints to the DOC by irritated motor boat users that the aquatic vegetation seriously hampered motor boat performance resulted in the ensuing herbicide application. Unfortunately, the herbicide did not contain itself to the designated channels and target areas. The toxin then proceeded to adversely affect the entire marsh and aquatic plant populations in the Rice Lake area. The exact herbicide used has not been identified at this time.

ENR Response:

Memoranda and reports on file at the IDOC's Division of Fish and Wildlife Resources addressed issues pertaining to the disappearance of aquatic vegetation at Rice Lake as follows.

Up through 1957 Rice Lake was densely vegetated with coontail as the dominant submergent and lotus as the dominant emergent. Three chemical applications to control vascular aquatic plants, and one to control algae



are on record. In June and July of 1951 sodium arsenite was applied to boat channels (50 ft. wide and approximately 2 miles long) to control coontail and elodea. Copper sulfate also was applied at that time for control of filamentous algae. Boat channels again were cleared of vegetation in July 1957 by application of sodium arsenite. Also during that year an aerial application of a selective herbicide (probably 2,4-D) was performed to control lotus. It was apparent that the gradual disappearance of aquatic vegetation began prior to 1957, and by 1958 submerged vegetation had entirely disappeared from the basin. It is noteworthy that aquatic plants in other bottomland lakes in the middle reach of the river were eliminated at about the same time. Also, the current practice of mid-summer water level drawdown at Rice Lake was initiated in 1971, well after the demise of the plant beds. The presence of carp in the bottomland lakes exacerbated the turbidity problem by their habit of disturbing bottom sediments while feeding. In addition, following dam improvements in 1960 the water level of the lake was raised which increased wave action leading to increased shoreline erosion and resuspension of bottom sediments. These factors prevent sunlight penetration to the extent that re-establishment of aquatic vegetation is precluded. It is highly unlikely that this situation is a result of chemical herbicides which were applied over 20 years ago.



COMMENTOR: Citizens for the Preservation of Knox County; Helen Pence,  
CPKC Board

Comment #1

The Orendorf site, a large temple town, once overlooking Rice Lake, has been destroyed by strip mining.

ENR Response:

Ms. Pence is correct. However, this site occurs outside the RLCA under consideration in this report.

Comment #2

Mining of Lake Rice would destroy the many possible sites for further exploration in this region.

These possible sites for exploration are listed, with evidence which suggests earlier civilizations.

ENR Response:

The best estimate is that mining specific areas of the RLCA will destroy sites of research value unless they are excavated archaeologically or alternatively, avoided completely.

Comment #3

Chapter XI, page 9, Geologic Hazards

... Second, sand and gravel deposits that are hydraulically connected with lakes or with the river outside the mine area might yield significant volumes of water to the mine pit. This could affect the stability of a levee which crosses such a deposit if the difference in water levels across the levee is large ... This potential difficulty could be mitigated by moving the mine boundary and levee to an area not underlain by gravel or by designating an engineered solution to the problem."

Conclusion: The problem is stated, but either solution for construction of the levee is not outlined. Obviously, the location of the levee as presented is not feasible. Either solution listed above would change conditions in the area, which means we do not know what we are being asked to respond to.

Therefore, the land report is incomplete and irrelevant, and more work is needed before we can respond in a meaningful manner.

ENR Response: .

It is correct that the Land Report states the problem, but has not outlined a solution for construction of the levee. Presently, the available mine plan calls for construction of a levee along the eastern edge of Duck Island, connecting to the Copperas Creek levee to the north and the Duck Creek levee to the south. This plan has not been formally submitted as part of a permit application and, as such, is certainly subject to change.

Along the southern part of Duck Island this levee crosses an area of thick sand and gravel deposits. In the Land Report, the authors have pointed out the potential hazard posed by the geologic and hydrologic conditions in this area. No solution was outlined because there are many possible. Among the possible solutions are a variety of alternate levee alignments that cross thinner sand and gravel deposits. Some of these might decrease the total area available for coal mining; others would increase it. Other possible solutions include a variety of engineering approaches that could be used along the present alignment or along any of the alternative alignments. These would generally approach the groundwater problem either by slowing down the flow with grout curtains or other low permeability barriers or by intercepting flow with wells or trenches.

The single alternative that is selected to mitigate this problem, if the area is mined, will be selected after thorough engineering and cost/benefit analyses. These types of analyses are beyond the scope of the present report. However, if the area is found suitable for mining, the proposed approach to leveeing will be subjected to the full scrutiny of the Department of Mines and Minerals and to public review and comment during the review of the application for a surface coal mining permit.

Comment #4

Summary of Findings, page 23

"Although it is a possibility, there is no geologic or hydraulic evidence presently available to support the contention that these springs and seeps are perennial and are fed by some source of water other than surface drainage."

Omission in the Report: A field investigation of these streams would be the best and most scientific way to check for evidence. It could be done through the windshield of a car, and would be very simple to do.

In this August of 1983, one of the most prolonged drought periods in recent years, many of the streams were still running. This could not be surface runoff.

The report is inconclusive at best.

#### ENR Response:

Field investigations of the RLCA were conducted during March, April and May of 1983; inspection of the seeps and springs in question were part of these investigations.

The Illinois State Water Survey maintains a network of 20 shallow observation wells around the state. Three of these wells are located in Mason, McDonough and Logan counties. Month-end measurement of these wells during the Spring and Summer of 1983 indicate that groundwater levels in shallow aquifers in the west central part of Illinois have been near normal, based on comparison with a 15-year average of month-end values. This can be attributed to the amount of recharge received during the Spring of 1983.

The response to a similar comment (Anderson Comment #9) acknowledged that these seeps and springs derive a portion of their flow from bedrock sources and found that, depending on the individual magnitudes, these discharge points could be perennial. Despite these findings, the concept of the flow system was not altered.

In light of these observations, it is reasonable to expect springs and seeps to continue to flow despite below normal precipitation in July and August, 1983. Consequently, the conclusion reached in the Land Report (Summary of Findings and pp. V-17) remains unchanged.

It should be noted that confusion exists over the phrase "surface drainage." This term was used to describe drainage of infiltrated precipitation in shallow geologic deposits; it is imprecise and confusing. The final version of the Land Report has been reworded to incorporate the phrase "local groundwater runoff" to describe this phenomenon.



Comment #5

Summary of Findings, page 22

"Since the post-mining area will be enclosed by levees high enough to protect it from the 100-year flood, proper control structures make it likely that a reclaimed Rice Lake will be better able to meet the DOC management goals than the existing lake."

Omission in the Report: In what way will the DOC management goals be improved? Rice Lake is already providing food and habitat for wildlife under DOC management.

Page 19--"Rice Lake is presently the only permit duck hunting area in the state open to the public (DOC 1983). During the period 1975-1982, the RLCA has annually hosted an average of 1,517 hunters who bagged an average of 1,363 waterfowl per year ... Both sport and commercial fishing occur at RLCA." DOC management practices would appear to be successful at the present time.

The Land Report has not documented the above statement in any way, so it is entirely without supporting evidence.

ENR Response:

Successful duck hunting as well as sport and commercial fishing presently do occur at Rice Lake, but flooding of the area has caused a deterioration of this success over the past several decades. Documentation for the relevant statements made in the summary is found in Chapter VII.

As indicated in the revised text, specific DOC management goals were not addressed. Due to 100-year flood protection, however, management for any purpose could have greater flexibility.

Comment #6

Chapter XI-6, Non-Coal Resources, Sand and Gravel

... "the mine plan could be implemented to maximize the time that the existing gravel operation has to operate, delaying the mining of the sand and gravel areas."

Omission in the Report: In the first place we do not have a mine plan to address, so anything said here is hypothetical. In any mine plan, the industry is lost, and the impact on the community in terms of services and construction materials is not addressed, and, in terms of jobs lost, the meaning of this to the community.



ENR Response:

The principal assumption in the comment is that "in any mine plan, the [sand and gravel] industry is lost." This is not necessarily true. As stated in the Land Report, the existing operation might be able to continue to operate while coal is being mined elsewhere. Even if the existing operation is terminated, it is quite feasible that the sand and gravel resource could be recovered by the coal company. This has been demonstrated by a coal mining operation along the Kankakee River in Will County in northeastern Illinois, where the coal company first recovered and sold a fine-grained sand resource before mining the deeper coal. In fact, the best available data suggest that the thickest remaining sand and gravel deposit occurs within the boundary of the RLCA. If this is recovered by the coal company the total sand and gravel resource that eventually would be recovered might be greater than that which could have been recovered by the current sand and gravel operation mining only on Duck Island.

Comment #7

Summary of Findings, page 26

"Although no endangered or threatened species of mammals are known from Rice Lake ..."

Ch. VII, page 39

... "three species are potential inhabitants of the area and cannot be regarded as absent without further study ... the more mature floodplain forests of Rice Lake provide critical summer habitat for the Indiana bat, including both maternity roost sites and foraging areas. However, no studies of the bat fauna of Rice Lake have been conducted. Consequently, the INHS will conduct a study at Rice Lake during the 1983 breeding season. With its large acreage of wooded shoreline and bottomland forest, the RLCA, in combination with adjacent land, provides many of the habitat requirements of the river otter and the bobcat, both state threatened mammals. Neither species, however, has been documented in the area in recent years."

Conclusions: This would indicate that these have been known here. Appendix F lists these as "known or potential" occurrence at RLCA. Therefore, the above statement has been made without consideration of past evidence, and without research into present population of endangered species.

ENR Response:

Appendix F lists the Indiana bat, river otter and bobcat based on historical data for the central Illinois region. New research at Rice Lake and additional data from the region on bats is included in the final Land Report. Effective methods do not exist for determining the presence of sparse and secretive species such as the river otter and bobcat.

COMMENTOR: Eagle Valley Environmentalists, Inc.; Terrence N. Ingram,  
Executive Director

Comment #1

On page VI-36 under Wildlife Habitat Suitability you state that Table VI-10 rates the RLCA for general habitat potential. What is your source of information for this table? Is this a standard table of soil types or something you developed?

ENR Response:

The table is taken from Soil Conservation Service Soils-5 interpretation files, and is tabulated for this report without alteration.

Comment #2

On page VII-9 you state that the lake depth has been increased in 1945, 1953 and 1961. Then you state what effect this has had on the plant life. Because DOC draws down the water level every summer, the time of year when Bellrose's study was conducted in 1979, could affect his results.

ENR Response:

Bellrose adjusted his data to mean sea level. Consequently, his conclusions regarding changes in the profile of the lake bottom were not biased by the stage of drawdown.

Comment #3

On page VII-10 it is stated that the secluded nature of Round Pond and Fiddler's Slough provides good foraging conditions for herons and eagles. I challenge this statement concerning eagles. These ponds are the first to freeze over and thus, are not able to be used by a majority of eagles as they are primarily in the area during the winter months. What studies have been done to document the eagles' use of these areas? If any had been conducted, it would have recorded far more eagles in the RLCA than you state elsewhere in this report.

ENR Response:

The statement regarding eagle use of the ponds has been modified to take the frozen over period into account. The final Land Report includes some higher eagle counts than the draft.



Comment #4

From your statements on page VII-10 and VII-11, it seems there appears to be a difference of opinion as to the amount of vegetation in Rice Lake according to the two studies you quote (Paveglio 1979 and Bellrose et al. 1979).

ENR Response:

Paveglio's study refers specifically to moist-soil plants, whereas Bellrose et al. refers specifically to aquatic plants.

Comment #5

On page VII-11 you state "no biological studies appear to have been conducted on the shrub swamps of the RLCA." On page VII-20 it is stated a DOC sponsored bird study was conducted in June of 1983. On page VII-39 the report states "INHS will conduct a study to investigate the presence of the Indiana bat at Rice Lake during the 1983 breeding season." On VII-43 you state that "a systematic winter study is needed in addition to the breeding bird survey." The results of these studies should be considered in the final report. How is this going to be possible?

ENR Response:

The schedule for the Lands Unsuitable for Mining Program established by law does not allow sufficient time for new year around biological studies to be conducted. The final Land Report does include a substantial amount of new biological data that was not included in the draft.

Comment #6

When you discuss the use of the area by the only federally endangered species, the bald eagle, there is no recommendation for an indepth study of the eagle use of the area. Why not? The existing data which you quote is very limited and misleading. For the public hearing, I will present evidence which shows that Rice Lake is important to as many as 75-80 eagles foraging along the Illinois River, and several of its back water lakes and that we know of at least three (3) nighttime roosts within the RLCA. You have available signed affidavits from DOC personnel stating they have seen far more than the misleading 20 eagles stated in your report on page VII-40.



ENR Response:

The need for an in-depth study of the Rice Lake bald eagle population is stated in the final Land Report. Higher eagle counts have also been included, as has the possibility that more than one night roost exists within the RLCA.

Comment #7

We also have a signed affidavit from retired DOC personnel that bald eagles have nested at Rice Lake for many years in the past. Thus, your statement that eagles were first observed at Rice Lake in 1973 is very misleading. You state that the eagle use is increasing. Perhaps only observations are increasing and no attempt was ever made to determine eagle use of the area in the past.

ENR Response:

The final Land Report includes reference to your information that bald eagles formerly nested at Rice Lake, and the statement that eagles were first observed at Rice Lake in 1973 has been deleted.

Comment #8

On page VII-46 it is stated that "the area used by the eagles (on the north end) as a communal roosting site is being considered for inclusion in the Illinois Natural Areas Inventory (Mickelson - 1983)". And on page XI-51 you stated that "the central and southern portions of the area would not be mined." What, pray tell, portion of the area will be mined?

ENR Response:

See Plate III-8 of the Land Report.

Comment #9

On page VII-48 it is stated that, "because it is covered with a productive community of green plants which is accumulating organic matter, Rice Lake, in contrast to the cornbelt in general, serves as a sink for carbon." This is quite a contrast to your statements from Bellrose on page VII-9.

ENR Response:

The text has been modified to indicate that the RLCA (vs. Rice Lake proper) serves as a carbon sink. Bellrose referred to aquatic plants only.

Comment #10

[Page XI-46 states the following] ... "Furthermore, productivity of existing floodplain trees would be expected to decline because periodic flooding has a beneficial effect on the growth rate of tree species adapted to the floodplain environment (Odum 1979). As species better adapted to post mining conditions become established, productivity probably would be restored." What species could be adapted to both post mining conditions and flood conditions at the same time?

ENR Response:

The discussion indicates a shift in species composition over time in response to changing environmental conditions.

Comment #11

[On page XI-49 you state] ... "If reclamation steps were well planned and executed, the value of the reclamation timber resource could equal or exceed that of the present forest." Then you go on to state, "Although mining and reclamation procedures at Rice Lake probably would differ considerably from those used at Banner Marsh." Anyone ... can see that Banner Marsh is not supporting any type of a forest let alone one which has a value equal to or greater than the present forest.

ENR Response:

The statement on pilot reforestation experiments at Banner Marsh has been deleted.

Comment #12

On page XI-49 it is stated that, "Mining would eliminate all of the waterfowl habitat in the RLCA." On page VII-30 it was stated that 40-85,000 waterfowl may use the area in a single day. I cannot understand how you can (state) ... "A well designed and executed reclamation plan could, in

time, result in an overall increase in the value of the area for migratory waterfowl." Perhaps the construction of a levee and no mining would enhance the area far more than a "well designed reclamation plan" ever could.

ENR Response:

The statement on 85,000 waterfowl was in error and has been deleted. The construction of a levee and no mining would enhance the area more than reclamation, but this is not the issue.

Comment #13

I believe your whole biological assessment of the mining at Rice Lake can be summed up with your last paragraph on page XI-51. Once Banner Marsh has been reclaimed to produce better habitat than Rice Lake, then we can consider mining Rice Lake - but not one day before then.

ENR Response:

The purpose of the biological resource section is to provide information regarding the potential impact that mining may have on the RLCA. By Illinois Statute, the Land Report cannot contain a recommendation regarding whether mining should be granted or denied.

Comment #14

On page XI-52 you state, "Reclamation of the site to a wetland state should provide suitable habitat for many reptiles and amphibians." But what do these animals do until that time? Eighty to one-hundred years from now, some species may not even be alive in this area to use it.

ENR Response:

The proposed mining plan calls for a maximum of 20 years to mine the area. The impact on surrounding wetlands is anticipated to be minimal. Therefore, the reptile and amphibian populations of those areas will remain undisturbed and capable of repopulating adjacent areas after reclamation.

Comment #15

I do not understand your basis for your statement on XI-53 "Department of Conservation personnel have the expertise for specifying desirable aquatic habitat types, stocking appropriate species, and managing a sport fishery at the site" when they are not able to improve the present sport fishing at Rice Lake as detailed on pages VII-33 & 34.



ENR Response:

The report cited as "Herndon undated" on XI-53 presents in detail the IDOC's plans for fisheries management at the RLCA after reclamation (i.e., development of habitat types, species stocking rates, water control structures, etc.). Sport fish management currently is hampered by siltation, high turbidity, an absence of aquatic vegetation, the frequent ingress of rough fish from the river and extremely shallow water after drawdown. After reclamation, these impacts will be eliminated or minimized by a levee designed to isolate the lake from the Illinois River.

Comment #16

What facts do you have on which you base the statement on page XI-55 that "If increased water clarity and fish population levels were achieved post reclamation food conditions for eagles could be improved over the present situation." There is no area that has been so managed, or a study which has been conducted, which will substantiate this claim.

ENR Response:

The sentence referred to has been deleted. See response to Audubon Council Comment #7.

Comment #17

There is no area where artificial roosts have been constructed to provide replacements for preferred diurnal foraging perches as stated on page XI-55. These unsubstantiated statements shouldn't even be considered as possibilities.

ENR Response:

The statement has been clarified on page XI-64 of the revised text.

Comment #18

In conclusion, I feel that the total sum of the biological effects of the proposed strip mine should lead you to a much stronger statement than, "the loss of habitat during the mining and reclamation periods would tend to counterbalance the predicted improvement." The facts speak for



themselves - the RLCA was purchased for and is being managed for waterfowl. Destruction of this habitat through mining would have a devastating effect on many species which presently find their life requirement in the RLCA and are enjoyed by many people, either fishing, hunting, bird watching or conducting nature studies. This long-term destruction outweighs by far the short term economic gain for a few.

ENR Response:

Nowhere within Biological Resource's sections of the Land Report does it state that the passage quoted above is ENR's conclusion regarding the total biological effects of strip mining on habitat area.



COMMENTOR: Freeman United Coal Mining Company; M.V. Harrell, Senior Vice President

Comment #1

The report does not assess the immediate contribution to the natural resources and recreational potential of the area gained by the resulting control of an additional 1,764 acres (Fulton and Peoria counties) in the Banner Marsh Area by the DOC, and how this might offset any possible short term losses by mining within the Rice Lake Conservation Area (RLCA). (Note that this acreage is incorrectly described as 338 acres on Page 7 of the summary.)

ENR Response:

The immediate contribution to natural resources and recreational potential of an expanded Banner Marsh State Wildlife Refuge cannot be assessed. No such assessment, provided by DOC or any other party, is part of the public record. While DOC has published a proposed Master Management Plan for that area, no quantitative estimates were made regarding its economic and/or recreational impact. For ENR to conduct appropriate and complete research in this regard would have exceeded the scope of this Land Report. Therefore, any discussion of the suggested but unspecified potential impacts of an enlarged Banner Marsh recreational area, which does not now exist, would be purely conjectural. In any case, whatever impacts occurred would not be "immediate." The relevant lands would have to be prepared for recreational use, which would take time. Moreover, long-term as well as a short-term losses would be associated with mining Rice Lake. The draft Land Report specified both long- and short-term losses. Those estimated specifications are retained in the final Land Report.

Some disagreements presently exist with regard to the acreages mentioned. DOC claims that they amount to 1,850. ENR research for this Land Report established that the best-available estimate is 1,698 acres, with 838 acres being in Fulton County and 860 in Peoria County. In the draft Land Report the 338 acre error should have read 838. (For further discussion of these acreage findings see the ENR response to the DOC specific Comment #3.)

Comment #2

Our proposal would also involve transferring to the DOC after mining an additional 2,382 acres contiguous to the present 2,694 acre RLCA. The future value of a greatly expanded RLCA to the wildlife resources and recreational needs within this area has not been assessed in the draft report. The DOC acquires Banner Marsh and Rice Lake, which becomes an integral resource management unit of approximately 10,000 acres.



ENR Response:

ENR agrees with the 2,382 and 2,694 acre figures mentioned. They are used in the Land Report. However, the future value of a greatly expanded RLCA is indeterminate, for the same reasons that a similar assessment of an expanded Banner Marsh recreational area cannot be made. It is possible that increased benefits could be realized. However, a comparison of ENR findings regarding the local economic impact of the present RLCA with DOC estimates for an expanded RLCA suggests no substantial increases. (See the ENR response to the DOC specific Comment #50.)

This comment implies that the proposed Rice Lake mining plan could produce a combined and integral Banner Marsh - Rice Lake resource management unit of approximately 10,000 acres. As described in the ENR response to the specific DOC Comment #3, detailed and extensive research was conducted for the Land Report regarding land ownership in the Banner Marsh and Rice Lake areas. The following table presents the findings.

<u>Acres</u>	<u>Ownership/Description</u>	<u>County</u>
2,694	DOC - present RLCA	Fulton
2,382	Various private owners - located within proposed mining area	Fulton
1,698	Freeman United - Banner Marsh	Fulton/Peoria
860	Freeman United - Banner Marsh	Peoria
838	Freeman United - Banner Marsh	Fulton
1,298	DOC - Banner Marsh	Fulton/Peoria
820	DOC - Banner Marsh	Peoria
478	DOC - Banner Marsh	Fulton

Therefore, if Rice Lake were mined, the final potential DOC acreage resulting from additions of present Freeman United lands to present DOC holdings would be 8,072 acres (2,694 + 2,382 + 1,698 + 1,298). Substituting Freeman United's estimate of their Banner Marsh land (1,764 acres) for ENR's estimate (1,698 acres) produces a sum of 8,138 acres (2,694 + 2,382 + 1,764 + 1,298). Using DOC's estimate of Freeman United's Banner Marsh land (1,850 acres) instead of ENR's estimate (1,698 acres) yields a total of 8,224 acres (2,694 + 2,382 + 1,850 + 1,298). All three estimates (8,072, 8,138 and 8,224 acres) are substantially less than 10,000.



Comment #3

As stated on page 29 of the summary, coal mining at Rice Lake would produce an estimated 2.3 million tons of processing wastes. In our proposal to the DOC (as noted on page 5 of Chapter XI), the coal would be processed and the refuse disposed of by burying and covering with non-acid producing material at our Buckheart Mine facilities outside of the RLCA. Given this assumption, then the statement (page 49 of the summary) that the hypothetical reclaimed RLCA is assumed to be hydrologically similar to the Banner Mine Area probably will not be applicable especially as to water quality. The assumed slight decrease in alkalinity, as a result of buffering acid drainage (page 49 of the summary) and the pure speculation that concentrations of some trace metals, probably lead and cadmium, would exceed recommended limits (page 50 of the summary) would probably be mitigated. It should also be noted that the Illinois EPA tested for lead at the Banner Mine in 1976 and found that the concentration was below their level of detection.

ENR Response:

The processing of the coal in areas outside the RLCA will affect the geochemistry of the spoil material. As a result, the assumption of hydrologic similarity between the RLCA and the Banner Marsh area is suspect. This assumption has been removed from the text.

Despite the potential removal of processing wastes from the RLCA and despite efforts to minimize acid production, it is felt that some degradation of water quality is inevitable. As a result, the conclusion that groundwater quality will be adversely affected, if the RLCA is mined, must stand. Measures to remove acid-producing coal processing wastes and to neutralize the acid production from remaining coal and shale will tend to mitigate adverse impacts.

Illinois EPA data has been examined. The analysis for lead has been cited in the final version of the Land Report.

In light of the above findings, it is agreed that trace metal concentrations may not exceed recommended drinking water standards. In the event the RLCA is mined, however, this problem should be thoroughly examined, and mining and reclamation plans designed to create conditions minimizing the release of trace metals.

Comment #4

In discussing the recoverable reserves within a sixty-mile radius of Rice Lake, the ENR report states "within a relevant six-county region there is about 600 million to two billion tons of other surface mineable coal resources with high development potential." These projections were made from ISGS Circular 504, published in 1978. Quoting from page 2 of Circular 504, "This report is an overview and should be used only as a guide

to more detailed investigation for specific areas." Almost all of the undeveloped blocks of "high development potential" are based on insufficient exploration data to outline proven economically strippable deposits. Also, many limiting factors to strip mining could obviously not be assessed in such a state-wide overview.

The strippable reserves for this six-county area were mapped in the early 1960s and are influenced (including the "high development potential" resources) only by the coal data available to the ISGS at that time. Since the time these reserves were mapped, most all of the present economically proven strippable Springfield (No. 5) Coal has been exhausted. In addition, the Herrin (No. 6) Coal has been determined by the coal operators in this area to be uneconomical at the present time due to the large amount of reject material associated with this seam.

Therefore, increased attention in recent years has been given to the Colchester (No. 2) Coal, resulting in additional exploration data which has not been utilized by the ISGS in its strippable reserve determination. Excluding reserves already controlled by coal companies, all the remaining blocks of strippable No. 2 Coal with "high development potential" for which we have additional exploration data, were found to be less than adequate for present mining. Substantial portions of the areas projected to contain No. 2 Coal at depths of less than 75 feet were found to be barren due to the occurrence of thicker than anticipated unconsolidated surficial (drift) deposits resulting in erosion of the coal. Therefore, excessive stripping ratios (due in part to variance in the projected elevation of the coal) and inadequate quantities of coal were found.

Several of the outlined strippable blocks consist of areas of the No. 5 and No. 6 Coals abandoned by Consolidation Coal Company and Midland Coal Company; also, Amax Coal Company has announced its intention to suspend operations in the No. 2 Coal in Fulton County. These actions certainly cast doubt as to the "high development potential" of these reserves.

ENR Response:

Circular 504 (Treworgy, Bengal and Dingwell 1978) was based on information that was available at the time the report was compiled. Since that time few additional data have been released to the state despite a considerable exploration effort in many coal blocks by several coal companies. Consequently, with few exceptions, Circular 504 still represents the best available information on the regional aspects of surface-minable coal resources.

Undoubtedly, additional data would change aspects of the syntheses presented in Circular 504 and our report. As stated by Mr. Harrell, some blocks have been explored and found to contain less coal, poorer quality coal, or different mining conditions than assumed in Circular 504. Given the specifics of these kinds of data, the staff could revise the discussion of regional coal reserves. ENR cannot make such a revision at present. The staff believes it likely that recent exploration efforts have identified some geologic conditions that reduce the minability of some blocks or portions of blocks. However, at the same time, these



exploration efforts have probably discovered new coal blocks or additional coal associated with known blocks that were not previously identified as having a high potential for development.

Mr. Harrell states that most all of the present economically proven strippable Springfield (No. 5 ) coal has been exhausted. He further states that coal operators have determined that the Herrin (No. 6) coal in this area is uneconomical to mine at the present time due to the large amount of reject material associated with this seam. The purpose of ENR's analysis in this section of the Land Report was to examine long term trends in regional coal availability. Economic conditions can fluctuate rapidly as they have in the recent past. Marginal or uneconomic reserves under present conditions should not be entirely omitted from such analyses; they may be economical in the near future, as they have been in the recent past. In addition, the abandonment of strippable blocks of the Springfield and Herrin Coal by Consolidation and Midland Coal Companies and a block of Colchester Coal by Amax may have little to do with long-term development potential and more to do with the current coal market.





COMMENTOR: Pam Fortado Gibson, Jacksonville, Illinois

Comment #1

Chapter VIIC, Wildlife - Species/Habitat Relationships

The report states: "Because of the large number of species which occur in the petition area and the small amount of information available on many of these, it is impractical to assess existing resources or to predict how these resources will change on a species by species basis."

The above statement is inaccurate; a great deal of information is readily available to any competent researcher, both historical information, local collections, museum specimens and current notes of species documentation that contain documentation for all seasons. Both government agency and private bird documentation is available.

Without at least a primary assessment of wildlife species, one cannot possibly ascertain the unsuitability of mineral extraction from this area. Thus, in my opinion, ENR has failed to present the full wildlife picture of this public owned acreage.

ENR Response:

The statement in question has been deleted. The purpose of the Land Report is to concisely present the kind of information needed by public policy decision makers. Extensive species lists have not proven to be useful for this purpose. Nevertheless, a great deal of information on the biological resources of Rice Lake has been included in the report.

Comment #2

Chapter VII-20 - Birds

This section is in gross error by stating, "These birds nest in a colony on the east side of the Illinois River approximately 2 miles from the petition area."

The statement refers to mixed herons. Extensive documentation exists for heron nesting immediately in the Rice Lake Conservation Area historically, found in Graber and Graber. Black Crown Night Heron (*Nycticorax nycticorax*) is a documented nester for the Rice Lake Conservation Area, CURRENTLY with multiple observers. It is easily deemed probable that this area will be extensively used for nesting by ALL heron species (AS IT HAS IN THE PAST) as the herons population cycles continue and their nest sites are changed AS PROVEN IN THE PAST FOR THIS SAME AREA.

ENR Response:

Graber et al. (1978) reported that the great blue heron, the great egret and the black-crowned night heron nested at a colony on Big Lake (Duck Island) in the late 1930s. This is interesting but insignificant in comparison to the current use of Rice Lake by these species that is documented in the Land Report. New information has been added to the final Land Report, including the present commentor's report of current nesting by black-crowned night herons.

Comment #3

Chapter VII-20 - Birds

The study states, "More complete and reliable information on the breeding birds of the area will be available after completion of an DOC sponsored study being conducted in June 1983."

It is unfortunate that personnel of ENR should choose to say that information gathered by anyone else would be more "reliable" than the information historically gathered by employees of ENR, namely Drs. Richard and Jean Graber.

It is a noted lack that overlooks the TYPE of DOC sponsored study which should be detailed. BY DOC DEFINITION, the avian survey is no more than a "sampling method" for comparative use. The guidelines for this specific DOC sponsored survey are rigid and restricted. This survey began by date, AFTER NESTING OF IMPORTANT RAPTORS AND ENDED BEFORE FLEDGING OF ENDANGERED SPECIES and does not incorporate the vital function of both spring, fall and winter use by birds, endangered, threatened or even uncommon species. This same DOC sponsored survey does NOT specifically allow for extensive time in nest documentation or even allow for full coverage of the 2,500+ acres of the Rice Lake Conservation Area because it deals with specific observation points.

I object that a mere "sampling method" would be employed as "more complete and reliable information" to extensive studies available within the ENR (Grabers) with absolutely no effort to obtain or use other information and studies available in the private and public sector.

ENR Response:

The statement in question has been deleted. The intent was to indicate that the data being collected by a thoroughly competent field ornithologist in June 1983 would be more complete and up-to-date, and therefore more reliable, than any other available data. Virtually all censuses of free-living birds are mere sampling methods.



Comment #4

Chapter VII-30, par. 3

The report states, "Wood Ducks are the only waterfowl which regularly breed at Rice Lake (Emerick 1982)."

Again, this statement is in error, one must suppose that Emerick DID NOT CONDUCT AN EXTENSIVE SURVEY OF THE RICE LAKE AREA PRIOR TO HIS COMMENT or he would have DISCOVERED other "waterfowl" species that REGULARLY BREED in Rice Lake Conservation Area. I must assume that members of the Illinois Natural History Survey did not conduct even a primary survey of the area either.

Perhaps ENR does NOT include Mallards, H-Mergansers & B-winged Teal, waterfowl? By all other definitions these species are considered waterfowl and have regularly reproduced in the Rice Lake area and OTHERS.

ENR Response:

The final Land Report contains data on the use of the RLCA by mallards, hooded mergansers and blue-winged teal during the 1983 breeding season. None of these are common nesters in the area.

Comment #5

Chapter VII-40 - Birds

The report states: "Eagles were first observed at Rice Lake in autumn during the 1973 sampling and in spring during the 1980 sampling."

Historical reference to Bald Eagles at Rice Lake is easily obtained through local references for at least the past 40 years for both winter and breeding seasons.

One should pay most particular attention to the SPRING sighting by Illinois Natural History Survey; it is quite commonly accepted that wintering Bald Eagles within the Illinois River Valley LEAVE on a mean average, generally accepted by all government agencies on or near the FIRST OF MARCH. Bald Eagles sighted AFTER March 1st are not considered "winter species." In the early days of March, in direct connection to weather patterns, some Bald Eagles could be termed as "late migrants," individuals.

It should be noted that IN the state of Illinois, the breeding season for Bald Eagles, even farther north than Rice Lake actually BEGINS in March.

The glaring omission of discussion regarding possible "nesting" of Bald Eagles at Rice Lake is inexcusable in a competent and unbiased presentation of the natural resources of Rice Lake, historical, current and potentials.

In light of the fact that both the Illinois DOC and the U.S. Fish and Wildlife Service have both been notified that adult Bald Eagles were observed regularly throughout April and May of 1982 and that notification occurred PRIOR to the petition procedure and the Land Report, one must seriously question the efforts made by the ENR staff to present a complete and unbiased data base for the petition area.

PLEASE NOTE: The habitat of the Rice Lake Conservation Area does include all known habitat components for use by Bald Eagles during their known nesting season within the Central Zone of Illinois; and that their presence has been observed and documented by multiple observers that include DOC employees, numerous residents of Fulton County, Richard S. Sandburg, W.V. O'Brien, members of the Great Lakes Sierra Chapter and myself.

An ENR publication was dedicated to W.V. O'Brien and that same publication includes verified and accepted sightings by O'Brien, Sandburg and myself AND that same publication is listed in the references used by this very Land Report. These same observers, ALREADY RECOGNIZED BY ENR did observe regularly, adult Bald Eagles during the months of April and May of 1982.

Why was this discussion omitted? It is probably the single most serious deficiency in the entire Land Report.

ENR Response:

The statement in question referred only to INHS aerial census data and is quoted out of context. In the final report the bald eagle section has been rewritten and includes comments on the possible nesting of bald eagles at Rice Lake.

Comment # 6

STILL on Page VII-40

The use of aerial census to determine Bald Eagle numbers in a heavily wooded area is a questionable procedure with relatively few conclusions verified by ground observers. Aerial tends to be lower totals.

The relatively undisturbed part of the petition area being considered for inclusion in the Illinois Natural Areas Inventory:

Considering that even the Illinois DOC have taken steps to legally protect this area from future destruction of many types, this report should indicate how this area would be protected from mining and what steps would eliminate the IMPACT from mining nearby on this rare and unique portion of public land.

In actuality, the steps taken by the DOC to PRESERVE this area should be viewed as surpassing a request to declare the petition area unsuitable for mining.



ENR Response:

The inefficiency of the aerial census method is explained in the final Land Report. It is not the function of the Land Report to develop reclamation, mitigation or recovery plans.

Comment #7

Page X-64

Regarding the economy and this ridiculous statement: "People could go elsewhere within the state for recreation. They probably will." The statement is so faulty, it really does not deserve detailed comment. However, let it be NOTED that no other public owned acreage contains the same components of recreational values as the Rice Lake Conservation Area within a hundred mile drive. To list only a few of these components: In one public property:

1. suitable canoe course during flood season, the ONLY one in the Illinois River Valley.
2. more than 100 herons easily viewed for more than 5 consecutive months.
3. Bald Eagles, easily observed throughout the winter and breeding seasons.
4. a large variety of rare bird species easily viewed throughout the year.
5. numerous endangered species (avian) easily observed both winter and summer.
6. large and diverse species of waterfowl easily viewed in flocks.
7. numerous bars and shallows for shorebirds in all the appropriate seasons.
8. overnight camping.
9. easy access by foot and canoe to natural backwater woodlands and
10. a unique outdoors experience worth driving hundreds of miles for across or down the entire state.

The potential of Rice Lake as a midwestern drawing card for increased tourism was totally ignored! In fact, the factual INCREASE of tourism due to publicity of rare bird sightings in the petition are was not even noted.

ENR Response:

When taken in its proper context the statement regarding people going elsewhere within the state for recreation makes sense. ENR does not disagree with the recreational components cited by the commentor. However, the point of this passage in the draft Land Report is that if people could not spend money in visiting the RLCA, their recreational dollars would be spent in other ways that still benefit the overall Illinois economy. Nevertheless, ENR concedes that the verb in the sentence "They probably will." is too imperative. It has been changed to "they probably would." With regard to increased tourism at Rice Lake, ENR disagrees. According to DOC attendance records, the attendance at the area was actually slightly less between 1978 and 1982 (98,390 annual average) than the previous five year period (109,566 annual average). ENR concedes that the 1981 and 1982 attendance were higher than average (see Section IXC). However, there is no reliable data which would indicate the specific cause of the higher attendance in 1981 and 1982.



Comment #8

Page XI-28, Impact ? to Wetlands ?

Incredible that this report would state, "Thus, this area will be removed from wetland-backwater lake habitat for the duration of mining." BUT IGNORES THE IMPACTS OF THIS REMOVAL ... WHAT ARE THE IMPACTS OF THIS REMOVAL????

ENR Response:

See response to Citizens for the Preservation of Knox County Comment #4 and Kirk Comment #5. The impacts of surface mining were addressed in Chapter XI of the report.

Comment #9

Page XI-50

AGAIN, the erroneous statement that Wood Ducks are the only breeding waterfowl of Rice Lake!

A question; It is suggested by Emerick that some of the migrants probably will be able to meet their requirements by utilizing adjacent lakes, reservoirs and bottomlands. How did Emerick arrive at this questionable conclusion? Are the requirements even known for Double-crested Cormorants and many other bird species? What base does Emerick use for habitat availability+ carrying capacity of what areas ??? Such questionable probabilities have no place in a data base but are only the supposition (without supporting text) of an individual.

ENR Response:

The statement on page XI-50: "only breeding waterfowl" has been changed to "only commonly breeding waterfowl." Emerick (1982) does not go into detail about the statement paraphrased. It was included as the professional opinion of the DOC's District Wildlife Manager.

Comment #10

Page XI-55 - Endangered and Threatened Species (Birds)

I find it entirely deficient!

Not one word regarding the loss of nesting endangered bird species! Documentation regarding such is readily obtained. The mere mention of "artificial roosts" without proper reference and text of established success ANYWHERE is unquestionably a piece of far flung theory ... by someone. WHO?

Notes regarding endangered and threatened bird species of Rice Lake and KNOWN Illinois CURRENT distribution in relation to their historic distribution should be included by SPECIES, individual.

By omitting discussion of each individual species, ENR clearly biases this Land Report by an obvious subtraction of Natural Resource values.

ENR Response:

The commentor misinterpreted the intent of the statement which was to counter any idea that artificial roosts could be successfully employed. The statement has been reworded to clarify the meaning.

The discussion of endangered species has been greatly expanded in the final Land Report.





COMMENTOR: Kenneth Grigsby; Canton, Illinois

Comment #1

Chapter XD, Economic Issues

The land report omitted an important economic loss to Fulton County. Within the proposed mining area is 1,165 acres of privately owned farm land that would be affected. This does not include approximately 600 acres on Duck Island ... [If Rice Lake were mined, over 15 years] ... \$4,849,313 (in corn production) would be lost ...

ENR Response:

Regretably, ENR did omit this factor in the draft Land Report. Text has been added to Section XD (Economic Issues) of the final Land Report to correct this omission. This addition to the Market Value and Sales Tax Revenues subsection presents an analysis of the potential economic impact resulting from the disturbance of farm land. However, the commentor's estimate of relevant acreages is partially inaccurate; and the computed economic impact is incomplete and, perhaps, misleading.

According to notes of the March 24, 1983 meeting of the petitioners and ENR staff, 1,165 acres of farm land do lie within the proposed mining area, including the 600 Duck Island acres. A joint examination of recent aerial photos and the Fulton County plat book bear this out. Moreover, at least 100 acres of this farm land is not underlain with coal. Accordingly, they may remain undisturbed. These 100 acres presently are owned by Continental Illinois National Bank and are contained in Sections 21 and 22 of Banner Township. Therefore, the total number of potentially affected acres may be 1,065 (1,165 - 100).

In addition, according to the proposed mining plan, the surface mining operation would begin at the south end of the Rice Lake Conservation Area and move northward. Should Rice Lake be mined, all of the relevant acreage need not be disturbed for the entire life of the mine. This is especially relevant regarding the 565 acres which lie in the northern portion of the proposed mining area. These acres (as well as the 600 Duck Island acres) could remain in farm production until the mining operation reaches them. When this would occur depends both on the life of the mine, which could extend anywhere from 9 to 21 years, and Freeman United's detailed land use plans, which have not been specified. Moreover, post-mining, the disposition of the land would depend on any proposed reclamation plan designed to fulfill applicable federal and state laws as well as any additional Illinois Department of Conservation (DOC) specifications. Since neither a detailed reclamation plan nor precise DOC intentions in this regard have been established, the length of time relevant acreage may be out of farm production after mining ceases cannot be determined. Given all these variables, the total time of non-production of food or fiber could be less, or significantly greater, than the 15 years mentioned by the commentor.

Finally, it is implied in this comment that the estimated market value of farm production is equal to a potential "economic loss to Fulton County." This is an erroneous implication. The market value loss would be borne by the property owners and/or, to a lesser degree, any tenant farmers. What all the people of Fulton County could lose would be the potential sales tax revenue generated by the relevant farm production. Potential sales tax revenue would be 0.0098 (the local revenue proportion of the state sales tax) times the estimated market value. This assumes that all of the farm production would be sold at market within Illinois. Any proportion of this produce not sold (for example, used solely by the producer/land owner) or sold out-of-state would not generate sales tax revenue. Accordingly, using the commentor's estimate of \$4,849,313 for the market value of farm production, over 15 years, Fulton County could lose a maximum of \$47,523 in sales tax revenues (\$4,849,313 x 0.0098), or \$3,168 per year (\$47,523/15). These factors, as well as the potential annual sales tax revenue for the State of Illinois, are taken into account in the added section of Chapter X. The potential impact on the property tax revenue generated by these farm acreages is already included in the Land Report.

Comment #2

Chapter X, page 49, par. 2

[The draft land report stated] that 65 to 68% of coal will be sold out-of-state and this is normal for Illinois. Therefore, all sales tax revenue that would be received should reflect this data ...

ENR Response:

ENR disagrees. The commentor has misunderstood other facts presented in the draft Land Report. For example, "At present, for obvious reasons, Freeman United has no contracted or prospective customer for the Rice Lake coal."; and "if Rice Lake coal follows the norm for Illinois coal (65% exported), then the anticipated state sales tax revenue will be approximately \$5 to \$7 million." (Page X-51, emphasis added.)

While the norm for all Illinois coal production is that 65 to 68% is exported, this is not necessarily the case for each and every mine in Illinois. For example, the AMAX Sunspot mine (Vermont, Fulton County, Illinois) has been the sole supplier of coal for the Central Illinois Public Service (CIPS) electric generating plant at Meredosia (Morgan County, Illinois). Since this Sunspot coal (75% of the mine's total production in 1981 and 69% in 1982) was sold in-state, it generated Fulton County and State of Illinois sales tax revenues. The following table presents the relevant data:

Year	AMAX Sunspot Coal Purchased by CIPS Meredosia Plant	Total AMAX Sunspot Coal Production	Percent
	(tons)	(tons)	
1981	749,797	1,000,003	75
1982	631,090	917,011	69

Source: Federal Power Commission, monthly and Illinois Department of Mines and Minerals, yearly.

Also, the Freeman United Crown II mine (Virden, Macoupin County, Illinois) has been the sole supplier of coal for the Central Illinois Light Company (CILCO) Duck Creek electric generating plant (near Canton, Fulton County, Illinois). The data is as follows:

<u>Year</u>	<u>Crown II Coal Purchased by CILCO Duck Creek (tons)</u>	<u>Total Crown II Coal Production (tons)</u>	<u>Percent</u>
1981	731,609	1,113,936	66
1982	1,161,522	1,610,150	73

Source: Federal Power Commission, monthly and Illinois Department of Mines and Minerals, yearly. (See also Table X-8, page X-25).

Accordingly, it is entirely possible that a Rice Lake mine could have significantly less than 65% of its production sold out-of-state. It could have 65 to 75% sold in-state. Without evidence to suggest exactly what the relevant proportions will be for the proposed Rice Lake mine, ENR is obliged to report all possibilities (scenarios) (Table X-24, page X-50). The 65% (to 68%) exported norm for all Illinois coal is, perhaps, the most probable scenario for a Rice Lake mine; but it is decidedly not the only one possible.





COMMENTOR: Illinois Association for Advancement of Archaeology;  
Mr. Eugene Gray

Comment #1

[The lack of a mining plan hampers an evaluation of the impact of mining on cultural resources.]

ENR Response:

The assessment of impact on cultural resources is based on the assumption that the entire RLCA could be mined.

Comment #2

[Mining will destroy known and unrecognized sites on lands adjacent to the RLCA.]

ENR Response:

Since the petition is limited to the RLCA, the impact of mining on cultural resources must be restricted to this piece of property. However, before mining may take place, a mining permit must be issued. The permit process includes a systematic evaluation of cultural resources aimed at determining if there are any candidates for the National Register of Historic Places. This process is completely independent of the Lands Unsuitable petition procedure.

Comment #3

[More extensive and complete investigations are needed to adequately assess the impact of mining on cultural resources.]

ENR Response:

The evaluation of cultural resources in the RLCA was developed primarily from existing data comprised of site location records maintained by the Illinois Archaeological Survey, published archaeological reports, interactions with professional archaeologists who have conducted research in the region around the RLCA, research on site locations in areas analogous to the RLCA, and a limited surface reconnaissance. It is notable that a surface reconnaissance, the customary means of searching for sites, is not sufficient for locating sites in the RLCA because of the dense cover of vegetation and the amount of sediment deposited during the Holocene. Shovel testing, a reconnaissance technique used in areas of dense vegetation, would be of limited effectiveness also since recent sediment bodies have considerable thickness. In addition, the RLCA was inundated during most of the period when more intensive site reconnaissance could have been conducted. The lack of data concerning the National Register eligibility of existing sites is problematical, but the Land Report process did not include the resources to conduct systematic surface and sub-surface reconnaissance including extensive excavations at some sites, to recover

enough artifacts to determine if a site was eligible. However, as noted above, the mining permit process includes a systematic assessment of cultural resources to determine if there are any sites eligible for the National Register. All things considered, this work has provided a substantial data base from which the probabilities of encountering cultural resources in different geological situations have been formulated. While it is not a perfect substitute for a systematic survey, it provides the best approximation under the circumstances.



COMMENTOR: Illinois Audubon Society; Warren R. DeWalt, Executive Director

Comment

Particularly noteworthy [in regard to the draft Land Report] are the report's comments on the following:

The bald eagles--mining would eliminate overwintering bald eagles during the mining period, with low likelihood of reestablishment afterward. The roost would be destroyed.

Colonial nesting birds--populations would be vulnerable, and losses probably would not be counterbalanced by reclamation.

Bottomland forests--mining would destroy another of the largely diminished bottomland forests in the Illinois River Valley. Also, the bluff near Rice Lake would most likely be dewatered, subjecting this valuable biological site to drought stress and possible mortality.

Endangered plants--mining would destroy the last remaining and best populations in Illinois of Boltonia asteroedes var decurreus, which is a plant proposed for federal endangered status.

Waterfowl--mining would eliminate all of the waterfowl habitat in the Rice Lake conservation area during the mining period, and the effects on regional waterfowl population levels could not be stated with confidence. Counterbalancing these negative impacts is the proposed reclamation, depending on "a well designed and executed" plan.

Ecological diversity--destruction of the soils by surface mining would permanently alter the ecosystem. The diversity of biota now enjoyed in the area would be slow, if ever, in reestablishing itself.

Habitat preservation--(in regard to the draft 1983 Scorp) mining would be incompatible with DOC's goals of habitat and forest preservation, particularly in regard to wetlands and natural areas.

ENR Response:

The comment above generally synthesizes the biological sections of the Land Report. However, the authors feel that the commentor has misinterpreted some of the statements made within the draft. In particular, it is incorrect to say that the bluff would most likely be dewatered. The bluff is in the area most likely to be dewatered, but the probability of dewatering is unpredictable. Mining Rice Lake would not destroy the last remaining population of Boltonia asteroides var. decurrens; several others are known. Some waterfowl habitat would probably be maintained in the RLCA during at least part of the mining period. Finally, the report does not say that mining would be incompatible with DOC's goals. It says only that it appears to be incompatible for their statewide goals.



COMMENTOR: Illinois Department of Conservation; David Kenney, Director

#### General Comments

##### Comment #1

The material in the draft report is presented in an inconsistent manner. Some sections deal with RLCA almost irrespective of its relationship to surrounding lands while other sections address impacts on a local, regional and statewide basis. Further, some sections present information based on the short-term while long-term projections are made in others. There are numerous statements throughout the report such as, "clear trend towards increased use", "used heavily by white tailed deer", "high diversity", "ranked number 10 in State water bodies producing commercial fish" which are suspect unless placed in perspective through appropriate comparisons or more detailed explanation.

##### ENR Response:

The material was presented in accordance with statutory requirements. The petition area identified by the Save Rice Lake Area Association, Inc. was the Rice Lake Conservation Area (RLCA). ENR's detailed natural resource analysis centered on this area. Where appropriate natural resource information obtained from the analysis of RLCA was also discussed in a regional and statewide context. Socioeconomic information was presented and discussed in a local, regional and statewide context. The demand for coal resources was addressed on a local, regional, state and national level.

##### Comment #2

The DENR should not attempt to interpret the policies and goals of the DOC. It was suggested on page 7 of the report that mining "would appear to be incompatible with SCORP goals." The report also states that DOC funding and acquisition problems must be balanced against our stated goals for preservation of wetlands, natural areas, cultural heritage and forests when, in reality, these are not mutually exclusive issues and mining could potentially have provided a vehicle to preserve or further all the above goals instead of requiring tradeoffs between them as is implied.

As a result of the proposal from Freeman, for instance, an additional 1,850+ acres of habitat at Banner Marsh would have come under State ownership. Also, in addition to our current holdings at RLCA, approximately 2,300 acres of lands adjacent to the RLCA would have come under State control after mining. Depending on how a reclamation plan for this entire area was devised, the result in time could be an increase in the forest acreage, wetland acreage, and habitat types currently not present (or present in small quantities). Additionally, these areas would be surrounded by a levee providing protection from the Illinois River and its continual degradation of all the backwater areas associated with it.



ENR Response:

ENR has made every effort to be objective regarding DOC's published policies and goals, frequently quoting directly from DOC documents. While page 7 of the Summary of Findings does state that mining would appear to be incompatible with SCORP goals, the DOC comment fails to take into account the qualification provided in the same paragraph: "SCORP goals ... were developed on a statewide basis (macro level) and should be examined in that light". In other words, ENR has acknowledged that SCORP goals for individual areas need to be examined on a site-by-site basis. Furthermore, on page XI-73 of the draft land report it is stated that mining RLCA is not completely incompatible with DOC's plans.

ENR did not mean to imply that funding and acquisition problems are exclusive of DOC's preservation goals. The sentence on page 7 concerning this comment by DOC has been changed to read: "In determining whether mining is incompatible with SCORP plans it is necessary to: 1) balance DOC's acquisition and funding problems and stated preservation goals for wetlands, natural areas, cultural heritage, and forests ..." Further clarification of ENR's intent in this discussion is provided in Section XI-G, which states that "DOC's funding and acquisition goals are compatible with the proposal to mine Rice Lake insofar as the mining proposal provides for additional lands to be given to DOC prior to and after mining.

Regarding the second paragraph of comment #2, DOC states that an additional 1850+ acres of habitat at Banner Marsh would come under State ownership as a result of the Freeman proposal. This appears to be an overestimate, as DOC's Master Management Plan for Banner Marsh State Wildlife Area states Freeman's holdings at 1,695 acres.

Comment #3

As for the cultural resources, no determination has been made that the value of the sites at Rice Lake can only be realized through preservation in place and since such instances are in fact rare, it would seem quite speculative and most likely inappropriate to deem mining as being incompatible with our goal of protection of cultural heritage.

ENR Response:

In no section of the draft land report has ENR suggested that the value of sites can be realized only through in-place preservation. In fact, ENR acknowledges the possibility of pre-mining excavation by stating in Chapter XI: "With regard to Rice Lake ... DOC has stated that if Rice Lake were to be mined, an archaeological survey should be completed and significant sites should be salvaged prior to mining."

Comment #4

It is likewise inappropriate to state that mining would be incompatible with our goal of preservation of natural areas. There is no area within RLCA currently designated as a natural area. The documented eagle communal night roost indeed would make that site eligible for inclusion in the Natural Areas Inventory; however, a detailed process must be followed including further study to determine the significance of such a discovery before actual listing would occur. To automatically assume listing is highly speculative and it is erroneous to further make the assumption that mining is therefore incompatible with our goal of natural areas preservation.

ENR Response:

ENR recognizes that no part of the RLCA has been officially designated for inclusion on DOC's Natural Areas Inventory and does not assume such an inclusion in the case of the eagle communal night roost. But ENR does believe that the RLCA possesses intrinsic value as a natural area and, as such, to mine the area appears to conflict with DOC's published statewide SCORP goals/objectives of protecting, maintaining and acquiring Illinois' few remaining "natural areas."

Comment #5

In the future, to avoid such misinterpretations of policy, it would be best to inquire of the organization/agency whose policy is being referenced how their policy or policies applies to a given proposal, rather than to attempt independent interpretation.

ENR Response:

See ENR Response to DOC Comment #2 above.

Comment #6

In many cases, identical material was used in three separate locations in the report; in the summary, in the existing resources section and in the impacts section. This added to the overall bulk of the document and should be avoided.

ENR Response:

The organization of the RLCA Land Report consists of the following parts. In Chapters I & II the petition process and petition area are described. Chapters III - IX describe the existing natural and socioeconomic



resources of the area. In Chapter X, as required by Illinois State Statute, the demand for coal is discussed. Chapter XI presents an analysis of the potential impacts that mining may have on the RLCA. Some of the data presented in Chapters III - X is stated again in Chapter XI in summary form. Due to the amount of data presented in the Land Report, ENR thinks this assists the reader in understanding ENR's assessment of the potential impacts of mining on the RLCA.

To better enable decision makers and the general public to assess the findings of the RLCA Land Report, the Summary of Findings was organized to address two issues. First, the potential impact that mining may have on existing land use plans or programs, fragile or historic lands, renewable resource lands, natural hazard lands, and socioeconomic resources and the supply of coal were examined. Secondly, the Summary of Findings addresses petition allegations as they relate to the impacts listed above. To understand the basis on which ENR's findings were made, information regarding the existing resources in the area and the potential impacts of mining on the area were extracted from relevant chapters in the Land Report. This resulted in a rather long Summary of Findings but provides the reader with a cohesive presentation of ENR's findings (and the basis on which they were derived) with regard to the statutory requirements of the Act and the allegations made by the petitioners.

Comment #7

A summary of 71 pages is excessive and it is recommended it be shortened.

ENR Response:

See ENR response to DOC Comment #6 above.

Comment #8

The DOC was pleased that issues raised in the report were for the most part the same ones identified in our "Rice Lake Mining Issues." We were surprised, however, that overall the report answered very few of the outstanding questions surrounding mining at Rice Lake. Is it DENR interpretation that the land report should only identify what is known and not make an attempt to further identify existing resources and answer outstanding questions?

ENR Response:

By Illinois Statute the Land Report "shall state objectively the information which ENR has, but shall not contain a recommendation with respect to whether the petition should be granted or denied." Each Land Report must evaluate the effect of mining operations on existing state or local land



use plans or programs, fragile or historic lands, renewable resource lands, and natural hazard lands. The Land Report must also contain a detailed statement on the potential resources of the area, the demand for coal resources, and the impact of a designation of unsuitability on the environment, the economy and the supply of coal. In addition to using existing information to address these issues, ENR personnel did perform some on-site surveys and met with members from the Save Rice Lake Area Association and Freeman United Coal Company. It was not within ENR's mandate to address questions that were not specifically related to the requirements of the Act or the allegations presented by the petitioners.

Comment #9

References to Becker, 1982 should be changed to Sweet, 1982. The authors assumed the cover memo dated February 8, 1982 from Carl Becker to Randy Vogel transmitting comments on Issue 4 regarding the Rice Lake Mining Proposal indicated authorship. The author of that document is Michael Sweet.

ENR Response:

ENR appreciates this correction. Appropriate changes in the text and references section have been made.

Comment #10

References are made throughout the text to land features which are not labeled on any of the maps: Round Pond (VII-10), Fiddlers Slough (VII-10), Ridge Field (VII-12), Barton Field (VII-12) and numerous others such as Hoxie Ridge and Miserable Island. Identification of these areas on a map would be helpful.

ENR Response:

Hoxie Ridge and Miserable Island are identified on Plate III-2. The other features are described in the revised text.

Comment #11

We recommend only common names of species be utilized in the text with the concomitant scientific nomenclature given in an appendix.

ENR Response:

Only common names have been used in the text of the final Land Report with the exception of cases where common names do not exist and where taxonomic confusion might occur.

Comment #12

A general discussion of alternative reclamation plans is needed. The factors used in making judgements of impacts should be projected into such a scheme.

ENR Response:

According to the Surface Coal Mining Land Conservation and Reclamation Act (PA 81-1015, Sections 7.02 & 7.04), the Land Report is not required to address reclamation. Although the Department of Mines and Minerals must declare the RLCA unsuitable if reclamation is not feasible, it is not within the scope of the Land Report to discuss specific reclamation plans. The Department of Mines and Minerals will use the information within the Land Report, information from the public and other stage agencies, and information that they have to determine the economic and technological feasibility of reclamation. To assist them in this determination, the Land Report includes general discussions of reclamation throughout the report. With regard to specific alternative reclamation schemes, it is the responsibility of the coal operator to submit these if the land is declared suitable for mining. In such a case, DMM would judge the feasibility of the specific reclamation plan during the mine permitting process.

Specific Comments

Comment #1

Page 2, par. 4

The report states "a description of the existing (and future) resources in both the petition area and the surrounding region is presented." In our review we note that no description of the plans for the adjacent Banner Marsh area is presented, and its integral relationship to the proposal presented to the Department of Conservation by Freeman United Coal Company is not discussed.

ENR Response:

Throughout the Land Report the specific resources of the petition area are discussed while the resources of the surrounding region are only described

in a general way. It is not the intent of the Land Report to describe the region other than to explain the area within which the RLCA is located. With regard to the plans of DOC and Freeman United Coal Company, these were not discussed in great detail. The function of the Land Report is to present the facts regarding the potential impacts that mining may have on the RLCA, not to describe the suitability of an expanded Banner Marsh area as a DOC wildlife facility.

Comment #2

The Master Management Plan for the Banner Marsh State Wildlife Area should be listed as a Land Use Plan pertaining to the RLCA and surrounding region as it outlines the proposed use of over 5,000 acres of adjacent lands.

ENR Response:

ENR agrees. The Master Management Plan has been added to the list of relevant plans in Section XIX. For the reasons stated in the ENR response above, the Master Management Plan for the Banner Marsh State Wildlife Area was not considered in detail.

Comment #3

The report states "A proposal to mine the RLCA could result in DOC receiving approximately 338 acres north of the Conservation Area in exchange for the right to mine Rice Lake." We are unsure of the source of this data as, under the proposal by Freeman United, the Department would have received approximately 1,850 acres at Banner Marsh immediately and would receive approximately 2,300 additional acres of land adjacent to RLCA after mining and reclamation were completed.

ENR Response:

ENR regrets the confusion caused by this passage. The relevant sentence should have read "A proposal to mine the RLCA could result in DOC receiving approximately 838 acres of land in Fulton County north of the Conservation Area in exchange for the right to mine Rice Lake." The appropriate corrections have been made in the text of the final land report.

In this regard, significant differences exist among the various extant estimates of the amount of Banner Marsh land DOC would receive from Freeman United. On pages 41, 42 and 67 of the Banner Marsh State Wildlife Area Master Management Plan, DOC estimated the acreage at 1,695. Freeman United affirms that 1,764 acres are involved. (See the Freeman United Comment # 1.) This DOC comment refers to 1,850 acres.



In preparing the draft land report, ENR analyzed this issue. The current plat books for Fulton and Peoria counties were used. In addition, the respective staffs of the Office of the Fulton County Supervisor of Assessments and the Office of the Peoria County Assessor were consulted. These telephone consultations involved a joint section-by-section examination of the plat books in order to determine ownership of lands in the Banner Marsh and Rice Lake areas. On their end, the respective Assessors staffs also utilized the listings of acreages in their property tax rolls, and made some planimeter measurements of their larger and more detailed section maps.

This analysis revealed that the amount of Banner Marsh land which DOC would receive from Freeman United amount to approximately 1,698 acres. Since this total agreed substantially with another independently derived figure (the 1,695 acres noted in the DOC Banner Marsh State Wildlife Master Management Plan), it was viewed as being the best-available estimate. Moreover, this ENR analysis determined that about 838 of the relevant Banner Marsh acres lie in Fulton County, and roughly 860 in Peoria County. Since acreage estimates were crucial to an assessment of the potential Fulton County property tax impact, only the 838 acre figure was used in the draft land report. That estimate is retained in the final land report.

Comment #4

Page 12, par. 3

The narrative on floodplain forest is confusing. Species are listed which make up the forested area east of U.S. Highway 24. It further lists the species occurring in the remaining area of floodplain forest which must, therefore, be west of Highway 24. None of the RLCA west of Highway 24 contains floodplain forest. In addition, pin oak should be added to the former list as on page 13 of the report, "several stands of mature pin oaks" are mentioned.

ENR Response:

The listing of floodplain forest tree species has been deleted from the summary and clarified in Chapter VII.

Comment #5

Page 14, par. 2

It is incorrect to state that the genus Boltonia is endemic to the Illinois River bottoms and that Boltonia species have been declining rapidly. Both statements are only attributable to B. asteroides var. decurrens and

not to all species of the genus Boltonia or even other varieties of B. asteroides. It is also appropriate to note that the population of this species (mentioned on page VII-16) occurs in an agricultural field indicating its ability to persist on disturbed sites. This field was not planted in 1982 due to wet conditions.

ENR Response:

Suggested changes have been made in the final Land Report.

Comment #6

Page 14, par. 3

In referencing Indiana bats, use of the phrase "critical summer habitat" is incorrect. Critical habitat for the Indiana bat are the hibernacula (caves) and no other critical habitat has been identified by either the USFWS or the DOC.

ENR Response:

The term "critical" is no longer used in reference to the summer habitat of the Indiana bat.

Comment #7

Page 15, par. 1

The Illinois River valley, in general, does meet all the habitat requirements for overwintering eagles, but Rice Lake Conservation Area does not. Open water may be the most important feature of bald eagle wintering habitat as food supply is probably the most critical feature of the biology of wintering bald eagles (Steenhoff 1978). During normal winters, Rice Lake freezes which would force many eagles to move to areas of open water for foraging. In addition, based upon what is known about severe weather roosting sites, there does not appear to be habitat available at RLCA to provide suitable protection. A communal night roost was documented at RLCA during the winter of "82", "83". It does not, however, exhibit characteristics typical of communal night roosts. Most winter roosts used by bald eagles are well protected from wind and, in fact, roosts along the Illinois River are usually on east-facing slopes protected from prevailing westerly winds (Steenhoff 1978). It is quite possible that establishment of this roost occurred due to the abnormal conditions of the winter of "82", "83", specifically extremely mild weather and record flooding. Therefore, in judging the significance of this roost, further monitoring is required as roost sites are normally used by eagles for several years (Steenhoff 1978).



In order to maintain proper perspective, additional narrative is needed explaining the statement "There appears to be a clear trend toward increased use of the RLCA by wintering eagles". The INHS aerial censuses would indicate this is not a phenomenon associated only with Rice Lake, but is, in fact, occurring in the entire lower Illinois River Valley. There does not appear to be a trend toward greater usage of RLCA in comparison with increases associated with other areas. Perhaps more detail on overall population trends and usage patterns would be helpful.

ENR Response:

The final Land Report has been modified to include ice considerations, and the need to further document eagle use of Rice Lake is pointed out. More detail on overall population has also been identified.

Comment #8

Page 15, par. 2

Double-crested cormorants have also been documented utilizing the Rice Lake/Big Lake area this summer (1983); however, these were also apparently non-breeding individuals as no evidence of nesting activity could be found.

ENR Response:

Birkenholz's 1983 data has been included in the final Land Report, specifically that on double-crested cormorants and brown creepers.

Comment #9

Page 3

This Summer (1983) brown creepers, a State endangered species were documented at RLCA. This species is a common migrant and winter resident in Illinois and has also been observed at RLCA during these periods. It is a rare summer resident and nester, however, and cypress swamps and floodplain forests are apparently the habitat types utilized (Sheviak & Thom 1981).

ENR Response:

See ENR response to DOC Comment #8 above.



Comment #10

Page 15, par. 4

A statement is made that the habitats of the RLCA are generally of high quality for supporting amphibians and reptiles due to the diversity of both terrestrial and aquatic areas. Further discussion is needed on the impacts of the fluctuating water levels, turbidity and lack of aquatic vegetation especially during breeding season.

ENR Response:

Turbidity, sedimentation and the demise of aquatic plant beds have adversely affected the reptile and amphibian populations of the RLCA. These influences, as well as industrial and municipal pollutants, were prevalent in the 1950s and thus were of considerable importance in governing distributions and abundances of species as reported by Smith (1961). Nonetheless, at that time the Illinois River Valley generally supported a greater diversity of these animals than the uplands due to the extensive draining and clearing of the upland prairies. Some species have been eliminated and probably many have been reduced in numbers or range, but in general the forests and extensive land-water interface areas of the river system, including the RLCA provide more suitable habitat for amphibians and reptiles than the predominantly row-cropped uplands.

Comment #11

Page 17, par. 2 and Page 18, par. 1

It should be noted there is a probable occurrence of at least three species of mussels in Rice Lake based on a collection made by the petitioners and identified by Dr. Richard Sparks of your staff. In addition, the narrative in this section is misleading. The statement is made that generally the Illinois River mussel fauna has been more decimated than the Mississippi River fauna. Then, a study of the upper Mississippi River is referenced wherein seven species were considered rare, leading the reader to the erroneous conclusion that these species could therefore be considered even more uncommon in the Illinois River. One of the seven species listed in the Mississippi River study, the flat floater (Anodonta suborbiculata), is also one of the three species collected by the petitioners and identified by Dr. Sparks. Appendix G is a letter from Dr. Sparks regarding his identifications wherein he states "None of these are rare or endangered species and all of them are found in still or slow-moving water."

ENR Response:

ENR now has circumstantial evidence of at least seven species of mussels occurring at Rice Lake. The text has been modified to clarify the analogy between the upper Mississippi River fauna and that of the Illinois River.

Comment #12

Page 18, par. 2

The information on the fall migration of waterfowl is misleading. Daily waterfowl populations of 40,000 birds are common in that portion of the Illinois River valley containing Rice Lake Conservation Area; however, such numbers are not commonplace at Rice Lake itself as evidenced by the INHS aerial censuses. Out of a total of 162 individual autumn censuses conducted over the past eleven years, only once has a waterfowl population in excess of 40,000 birds been noted and never was 85,00 attained. We note the DOC source document used in making this reference is misleading in this regard. Although the RLCA does support a mean autumn duck and goose population of over 5,000 birds, the area generally supports less than 5% of the total waterfowl censused on the lower Illinois River (INHS census data).

ENR Response:

The data referred to has been omitted.

Comment #13

Page 19, par. 2

The statement is made that hunters in the surrounding areas bag many waterfowl which utilize Rice Lake as a feeding and resting area. It should be equally appropriate to assume that, in addition to the bag by hunters on these private lands, many waterfowl utilizing private areas for resting and feeding are bagged by Rice Lake hunters. This is especially true considering the adjacent privately owned Big Lake historically holds substantially larger numbers of waterfowl in the autumn than does Rice Lake.

ENR Response:

Suggested additions have been incorporated in Chapter VII.

Comment #14

Page 20, par. 1

Spawning by most fishes is completed well before the summer drawdown of Rice Lake occurs. In addition, Dr. Frank Bellrose was questioned at the fall 1981 annual meeting of the IEC regarding the possibility of total draining of Rice Lake in order to consolidate bottom sediments. It was his opinion, and we would agree, that due to the physical nature of the

sediment, it would require a period of several successive years of drying to accomplish this.

ENR Response:

The statement was made in reference to fishes spawning during the spring following summer drawdown. Several years of consecutive drawdowns would tend to consolidate the sediment along the margin of the lake and thus make these areas more attractive as a spawning substrate. The statement in question, however, has been removed from the text.

Comment #15

Page 20, par. 3

Barring changes in surrounding land uses, a wildlife dispersal corridor would still exist in the event of Rice Lake mining. The "corridor" also could be enlarged after mining dependent upon the specifics of a given reclamation plan.

ENR Response:

The text of Chapter XI has been modified to indicate that mining would result in a temporary and partial barrier to wildlife dispersal.

Comment #16

Page 22, par. 2

Mining would probably have an effect on the natural drainage pattern. It is standard procedure to divert drainage from the unaffected area around a mining operation. Such would undoubtedly be the case in the event of Rice Lake mining with the construction of a perimeter ditch along the west permit boundary to direct flow away from the operation. Whether these drainage patterns would be restored would be dependent on the reclamation plan and specific management goals.

ENR Response:

Bluff runoff could be diverted around the leveed area or pumped to the Illinois River as indicated in the revised text on pages 48 and 49.



Comment #17

Page 25, par. 1

There is no evidence to support the statement "the impact of mining Rice Lake on endangered and threatened plants will be to eliminate potential habitat for four state-listed wetland species once known from Fulton County." Exact requirements of these species are unknown and because of this it cannot be assumed that a reclaimed Rice Lake would not be potential habitat.

In addition, there are two areas of RLCA, one centrally located and one on the southern border, which are not underlain by coal and would, therefore, not be mined. Even if undisturbed moist soils were required for the existence of these species, such areas would still exist after mining.

ENR Response:

The statement has been modified to indicate that the elimination of potential habitat might be temporary.

Comment #18

Page 25, par. 4

There should be minimal threat to fishes in adjacent areas from increased turbidity and sedimentation as a result of mining. Both IEPA and DMM have strict standards for control and treatment of affected drainage and for revegetation and stabilization and there is no reason to assume these agencies will not enforce their standards. The turbidity and sedimentation from a mining operation should be miniscule when compared to the effects of the Illinois River on the areas in question.

ENR Response:

ENR agrees. The revised text incorporates these changes.

Comment #19

Page 26, par. 2

There appears to be no basis for the assumption that "mining the area would most likely result in smaller forested areas" and thus would further reduce the regional availability of suitable habitat for the Indiana bat, river otter and bobcat. As stated previously, the Department could have received an additional 2,300+ acres in adjacent lands representing a 90% increase in the size of the Conservation Area. Dependent upon the

reclamation plan and management plans, the forest acreage in time could increase over current levels. In addition, because exact habitat requirements are not known for the three mammal species mentioned, there would seem to be no reason to assume that the reclaimed area would be less suitable to their needs especially since the Conservation Area would be 90% larger and additional habitat diversity would probably result.

This entire section (pages 24 through 26) seems to perpetuate the common myth that from the moment a mine is opened, all habitat within a permit area is lost for the life of the operation. Mining operations, however, disturb and subsequently replace habitat incrementally. As the operation slowly advances, the zone of disturbance likewise slowly advances a short distance in front of it. Reclamation follows the advancing pit occurring directly behind the operation. At Rice Lake, if mining started in the southern portion advancing north, it would be many years before disturbance would occur in the northerly areas. The lake proper would be drained at the start of the operation and this habitat would be removed. Lush plant growth would then occur on the exposed lake bed, however, providing a different type of habitat and the trees in these northern areas would also still exist until removed by the advancing pit.

ENR Response:

The section has been modified to indicate that the predicted impacts may be gradual, partial and temporary. However, the best available data indicate that the three mammal species mentioned prefer relatively mature and undisturbed forests.

Comment #20

Page 29, par. 3

Provisions for handling and disposal of toxic processing wastes are currently contained in State law. In addition, it should be noted here that coal processing and disposal of refuse would most likely not occur in the petition area.

ENR Response:

The following statement has been inserted on p. 29: "in Freeman United's proposal mine plan, waste materials would not be disposed of in the RLCA." See also the discussion of processing wastes in Chapter XI and the response to R.C. Anderson's Comment #1.

Comment #21

Page 41, par. 1

The Report indicates an average of 100,000 persons per year visit Rice Lake. The 100,000 figure refers to visits, not visitors. It is likely that many of Rice Lake's visitors are repeat visitors.

ENR Response:

Thank you for pointing out this error. The text of the Land Report has been changed to reflect this comment.

Comment #22

Page 50, par. 3

The statement regarding the potential for trace metals exceeding recommended limits should be clarified. Recommended limits for what? The area should certainly still be quite suitable for fish and wildlife and recreation use.

ENR Response:

The statement referred to drinking water standards. It has been retracted in the final version of the Land Report.

Two comments in the Land Report refer to the quality of water with respect to other uses. In Chapter XI a study is cited which found water quality in final cut lakes to be adequate for livestock. In both the summary and Chapter XI, ENR states that water quality in final cut lakes was judged "acceptable for general water use."

While water quality is expected to be somewhat degraded at the RLCA, it should be of sufficient quality to support fish, wildlife and recreation use.

Comment #23

Page 53, par. 3

The assumption that a dragline would be used to move the geologic materials is probably incorrect. Freeman United Coal was the most likely candidate to mine the area and their operations typically are shovel or wheel/shovel operations.



ENR Response:

This assumption was made for convenience, and has been withdrawn in the final version of the Land Report.

Comment #24

Page 64, par. 2

The Report implies visitor-induced statewide economic impacts would be eliminated. However, if visitors went elsewhere in Illinois, then no decrease in statewide economic impact would occur.

ENR Response:

This paragraph merely states the situation as it now exists. Caveats regarding the utilization of other recreation facilities if Rice Lake is mined are mentioned a number of times, and are contained, in other parts of the Land Report. (See the State Economic Impact subsection of Chapter IX and the Impact on Illinois Economy subsection of Chapter X.)

Comment #25

Page 69, par. 2

The discussion on property values should be expanded. While it is true that adjacent property values would most likely decrease during mining, they could potentially increase after mining due to proximity to a very large Conservation Area.

ENR Response:

Since data on this point are not available, any further discussion of this matter could involve only assertions, speculations and conjectures which could not be substantiated.

Comment #26

Page II-28, Fig. II-3

The delineation of DOC Region I boundary is incorrect. It should extend from the LaSalle County/Kendall County border north to McHenry County then

west along the DeKalb County/McHenry County border, then north along the McHenry County/Boone County border to the State line.

ENR Response:

The delineation of the DOC Region has been revised to say Region Ib which is part of the DOC Region I. Region Ia is to the north of Region Ib and includes the northwest corner of the state.

Comment #27

Page V-37

The adjusted figure for average sediment accumulation given in Table V-3 (.3 ft.) is not explained in the text. The annual loss of depth is given as .01 ft. on page V-34.

ENR Response:

The loss of depth in Rice Lake is based on a comparison of 5 survey points between 1964 and 1983. The 1983 survey had 36 survey points while the 1964 survey only had 5 survey points. The average sediment accumulation based only on this comparison was 0.3 foot during the 19-year period (from 1964 to 1983) as shown in Table V-3. The annual loss of depth would amount to about 0.015 feet.

Comment #28

Page V-38

The annual flooding of backwater lakes and the resultant fresh sediment deposits may enhance the productivity of the lake through the cycling of nutrients but the amount and nature of sediment deposited also has a detrimental effect on the plant and animal populations (decrease oxygen, increase turbidity).

ENR Response:

The authors agree with this comment and the text on page V-38 has been changed to include the following: "This cyclic process of flooding of backwater areas and the resultant fresh sediment may enhance the productivity of the lake but long term sediment deposits have a detrimental effect on water related plant and animal populations."

Comment #29

Page VI-4, Page VII-6

The figures given on these pages are illegible and should be redrawn or removed.

ENR Response:

The figures have been redrawn and incorporated into the final Land Report.

Comment #30

Page VI-31 and VI-32

The rating system used to construct Table VI-7 is misleading. The rating categories are very limited in their scope and only portray some of the characteristics of these soils. The Hickory series, for instance, was considered the most productive based on this classification. Since the Hickory series only produces 225 BF/A/Yr., it can hardly be considered the most productive. All of the other soil series, with the exception of the Rodman and Timula, are capable of producing between 400 to 700 BF/A/Yr.

ENR Response:

ENR agrees. It is peculiar that the SCS would rate Hickory with the highest ordination symbol (1r), yet potential productivity is less according to Cooperative Extension Circular 1156. The two parameters were arrived at independently from different characteristics and this apparently is one case where the two estimates don't correlate well with each other.

Comment #31

Page VI-33

The report mentions the absence of Silver Maple from the "Common Trees" column in Table VI and points out that pines are often mentioned as suggested trees to plant. The data was undoubtedly taken from SCS soil interpretation print-outs which often do not consider inclusion of all species found naturally on a given soil and will often recommend exotic or non-native species which may be economically important, but are not necessarily ecologically important.

ENR Response:

The data indeed comes from SCS soil interpretation printouts which are biased toward economically important species. The text has been amended accordingly.



Comment # 32

Page VII-4

In formulation of Table VII-1 so many assumptions are made that the information becomes meaningless. For example, it assumes there would be increased value for endangered species without mining and decreased value with mining; for waterfowl there will be no change without and increased value with; for fish the change is unpredictable without and increased with. It would seem different and varying assumptions were made for each circumstance and equally viable but different assumptions could have been made for each resulting in changes to the assigned values. In fact, page VII-19 states that "it is impractical to assess existing wildlife resources or to predict how these resources will change on a species by species basis." Perhaps a discussion of potential changes without conclusions would be more appropriate.

ENR Response:

The predictions presented in Table VII-1 do not constitute conclusions, but rather the authors' informed opinions regarding the most likely future events. The main value of the table is to summarize the important biological questions that must be answered.

Comment # 33

Page VII-9

One factor contributing to the slower sedimentation rate was not mentioned. DOC management, specifically the presence of the dam separating Rice Lake and Big Lake, is a positive factor. In addition, Rice Lake is not "representative of the once abundant and productive backwater lakes of the Illinois River Bottomlands Division." The numerous changes both physical and biological have rendered it quite different from its condition prior to 1900.

It should be noted that the disappearance of aquatic vegetation and its subsequent effects was not unique to Rice Lake and, therefore, other contributing factors were probably involved.

ENR Response:

The comment on the dam has been added, and the text has been modified to indicate the degraded nature of Rice Lake as an example of the Illinois River Bottomlands Division.

Comment # 34

Page VII-14

In discussing the natural area value of undisturbed forest in the last line on this page "successful" should be "successional."

ENR Response:

ENR agrees. The suggested substitution has been made in the text of the final Land Report.

Comment # 35

Page VII-16

The habitat given for Boltonia asteroides var. decurrens on pages VII-16 and page 14 is "muddy shore of the floodplain forest." This is taken from the status report by Bowles for USFWS, but is a confusing statement. We suggest the habitat be changed to "moist soil of open bottomland forests, river and lake margins and fields." Bowles agrees it should be changed.

ENR Response:

ENR agrees. The suggested change has been made in the final Land Report.

Comment # 36

Page VII-18

The statement that 1 million dollars in timber value refers to the potential productivity of the area lost over a mining period. To consider this an actual monetary loss, however, assumes logging would otherwise have occurred during this period or will occur in the future. It is highly doubtful this is the case.

ENR Response:

A sentence has been added to cover this point in the final Land Report.

Comment #37

Page VII-20

The information on relative abundance for mammals references central Illinois, whereas the relative abundance for birds does not reference any geographic area. Are the bird relevant abundance notations statewide, regional or site-specific? If site-specific, species such as the Upland Sandpiper and Henslow's Sparrow should be deleted. If of regional scale, then they should be included. It makes a difference on relative abundance; the great egret may be common on a site-specific scale but it is not on a regional or statewide scale.

ENR Response:

Appendix F has been corrected to include the intended reference to the central Illinois region for bird abundances. Site-specific data (Birkenholz 1983) have also been added.

Comment #38

Page VII-20

The value placed on any one group of birds is subjective. Waterfowl and endangered species may be of utmost importance to hunters, preservationists, scientists, etc., but the role of the heritage species (insect and predator control, aesthetic, etc.) cannot be overlooked.

ENR Response:

The authors believe that public policy decision makers require information on the relative value of resources.

Comment #39

Page VII-33

Even with DOC addressing sedimentation problems, there appears to be no basis for the conclusion that the value of the area for waterfowl will improve as the detrimental conditions currently present at RLCA will remain even if the overall rate of decline is slowed by DOC management activities.

ENR Response:

ENR agrees. The text has been changed accordingly.



Comment #40

Page VII-41

In examining the INHS waterfowl censuses, we were unable to ascertain how the mean numbers of eagles per census given in Figure VII-5 were determined as our calculations for autumn means resulted in smaller numbers. In addition, the line extending from the intersection of the X and Y axes would indicate that no eagles were present prior to 1973. Likewise the line between the year 1979 and the mean number for 1980 would lead the reader to the conclusion that spring use by eagles only began in 1980 when a dramatic increase occurred. Further discussion of this should be provided.

ENR Response:

To calculate autumn eagle numbers, we used census weeks #10-16 only because these weeks bracket the period in which eagles were observed. It would, of course, be highly misleading to include census flights before eagles return to the area. The text has been modified to clarify this point. Further discussion of general eagle trends in Illinois has been provided.

Comment #41

Page VII-42

Table VII-9 is incorrectly labeled as Tazewell County. The location of the heron rookery is Mason County.

ENR Response:

The error has been corrected.

Comment #42

Page VII-43

Why and how is it noteworthy that the sand areas immediately across the river to the east support a unique assemblance of herps?

ENR Response:

The reference to this area has been deleted from the text. It is now noted on Page VII-43 that the IDOC publication "Rice Lake Mining Issues" stated that suitable habitat for the state-endangered Illinois mud turtle may exist at the RLCA.

Comment #43

Page IX-29

Interviewing at Marshall County and Rice Lake did not occur from May, 1981, to February, 1982. Interviews at all 26 sites surveyed in the Department's Visitor Expenditure Study occurred during this nine-month period. Interviewing at Marshall County and Rice Lake occurred over a 2 day period in June, 1981.

ENR Response:

The article referenced in the footnote on page IX-29 indicates that on-site interviews occurred between May, 1981 and February, 1982. The reference has been changed to reflect this new information.

Comment #44

Page IX-3, par. 2

Income in the form of wages and salaries paid to employees and proprietors of businesses selling goods and services to Rice Lake visitors and the Department is also part of the income impact. Based on the 1977 Census of Retail Trade, for Fulton County, wages and salaries represent roughly 10.5 percent of sales. If this figure is applied to the visitor and DOC-induced sales impact (\$182,000-\$348,000), then this portion of the income impact would be an additional \$19,110-\$36,540 per year.

Comment #45

Page IX-32, par. 3

The portion of the total tax impact attributable to income taxes (\$1,400 in the Report) would increase as indicated in the comment above.

Comment #46

Page IX-33, par. 1

Sales, income and tax impacts should not be added up to obtain a "total economic impact." These are simply different measures of local economic impact. In fact, double counting may occur since income and tax impacts are included in sales impacts.

ENR Response:

Since the three comments stated above deal with the local economic impact of the RLCA on Fulton County, the ENR response to them has been consolidated into a single response.

In calculating the local economic impact on the county, ENR altered the DOC methodology so that the tax, income and sales impacts could be totalled for a figure which represents the total economic impact on the county. However, DOC is correct in pointing out that double counting has occurred in such totalling.

With regard to the first of the three comments above, ENR intentionally omitted the income paid to proprietors of businesses selling goods and services to Rice Lake visitors and DOC in order to avoid double counting the sales and income impacts. Regretably, ENR did not consider the fact that the entire tax impact is included within the sales impact (in the case of sales tax) or the income impact (in the case of real estate and income taxes).

While the authors agree that the impacts should not be added up to obtain a total economic impact if the income of proprietors or tax impacts are included, we feel that by omitting those elements, a total economic impact can be calculated. Thus, those impacts which DOC discusses in their first two comments above were intentionally omitted. Also, the total economic impact shown in Chapter IX has been reduced by \$5,800-\$7,400 to correct the error (double counting) previously found in the draft.

Comment #47

Page IX-48, par. 2

Delete "prior to 1983 were" and insert (in place) "are." The L&WCF program was funded in federal fiscal year 1983 and is expected to be funded again in federal FY'84.

ENR Response:

The text has been changed to reflect this comment.

Comment #48

Page IX-49, par. 1

The Report refers to discussion of SCORP program commitments in Chapter IV. Chapter IV is "Atmospheric Resources." The discussion is in Chapter XI.

ENR Response:

Again, thank you for pointing out this error. The text has been changed accordingly.



Comment #49

Page X-55, par. 2

According to the Illinois Revenue Act, land owned by the state, but leased, e.g., to a farmer, can be assessed property taxes. If some of the eventual 2,382 additional acres were leased from the Department, e.g., for farming purposes, then the "net permanent loss" would be less, depending on the acreage leased per year.

ENR Response:

ENR agrees. However, a DOC plan or statement of intention to lease out reclaimed farm land contained in an expanded Rice Lake Conservation Area does not exist as part of the public record. Therefore, an assessment of this potential factor cannot be made at this time.

Comment #50

Page X-55, par. 2 (cont.)

In addition, it could be assumed that the additional 2,382 acres, if developed for recreational use, would increase visitation substantially. If this occurred, then some of the "net permanent (property tax) loss" would be offset by the eventual gain in local sales tax revenues associated with the increased visitation.

ENR Response:

While this is probably true, at this time, any analysis of this point would be purely speculative. No detailed DOC plan for management of an expanded Rice Lake Conservation Area exists as a part of the public record. Accordingly, how substantial the increased visitation would be is indeterminate.

Nevertheless, DOC has made estimates for an expanded RLCA. According to Rice Lake Mining Issues (page 7, last paragraph), an expanded RLCA, leading to increased visitation and operating expenditures, would generate "about \$289,000 per year in sales and approximately \$110,000 per year in personal income ... in Fulton County. Sales tax revenues to Fulton County would be about \$2,800 per year." According to ENR research for this Land Report, the present RLCA annually generates \$228,000 to \$394,000 in sales, about \$65,000 in personal income and \$1,800 to \$3,400 in Fulton County sales taxes. (See the Local Economic Impact subsection of Chapter IX.) Comparing the figures for the present RLCA with DOC's estimates for an expanded RLCA, substantial increases are not apparent.

Comment #51

Page XI-23, par. 2

Considering the dominant soil series in the area, will the increases in velocity fall within IDOT/DOWR guidelines?

ENR Response:

Stream velocity at the River Mile 135 with the new levee condition was computed as 1.80 ft./sec. for 50- and 100-year floods (Hanson Engineers, Inc., 1982). The maximum permissible velocity in the Illinois River was computed in the range of 3 to 6.5 ft./sec. (Bhowmik and Schicht, 1980). There is a safety margin as far as bank erosion is concerned.

Comment #52

Page XI-40

Regardless of the slope of the levee, any surface water directly contacting it would be shallow so enhancement of littoral zone regeneration does not appear to be a factor.

ENR Response:

ENR agrees that the main reason for low slope angle on the levees is for increased stability and that littoral zone regeneration is a very minor aspect.

Comment #53

Page XI-42

The paragraph on prime farmland indicates "these areas would have to conform to federal and state regulations regarding return to equal or greater productivity than equivalent reference areas" as though this is a requirement unique to agricultural lands. Section 1816.116(a)(2) of the State's mining regulations, requires that all revegetated areas must, at a minimum, equal the productivity based on the use of reference areas or technical guides.

ENR Response:

ENR agrees. Equal or greater productivity requirements are not unique to croplands. However, there are special requirements for prime farmlands as discussed in Sections 1785.17 and 1823 including elaborate documentation on the suitability of the plant growth media, minimum depths of soil replacement, and that the A horizon should equal or exceed original in depth. The text has been amended to clarify this point.

Comment #54

Page XI-24

There is absolutely no basis for the assumption that if mining occurs, "the diversity of biota now enjoyed in the area will be slow if ever in reestablishing. (See comments regarding pages 3 and 26). As an example, bird surveys were conducted at both RLCA and Banner Marsh. The diversity of species present on the two sites were virtually identical with 75 species at Banner Marsh and 73 species at Rice Lake. In addition, all inclusive surveys of the biota were not done at the site, so how was the diversity determined?

ENR Response:

The statement was meant to refer the plant diversity and composition and indicate that it would be slow, if ever, in reestablishing, depending on the intensity of human replanting efforts and the proximity to natural seed sources. The authors have no knowledge of a large-scale revegetation effort whereby plant diversity has been quickly recovered to that of the pre-existing natural community. There are so many complex, subtle interactions that have occurred over a long period of time which are responsible for the natural community.

These cannot be replicated over the short term. The authors agree that animal diversity would not necessarily be slow in recovering but believe that the composition would differ between the pre- and post-mining states.

Comment #55

Page XI-44

How could aquatic vegetation, as it occurred prior to the late 1950s, be re-established even if siltation into the lake bottom were controlled? Further explanation is necessary.

ENR Response:

If siltation into Rice Lake were nearly halted, turbidity of the lake would be lessened and the buildup of the super-saturated bottom sediment would be reduced. Dry downs over successive years would then possibly solidify the bottom sediment and reduce turbidity sufficiently to allow the establishment of aquatic vegetation.



Comment #56

Page XI-47

The statement on impacts to the bluff is very speculative for the following reasons: Dewatering may not occur; even if it does, impacts are not known; even if impacts were known, specific requirements of the species referenced are unknown so it cannot be determined the area would be less desirable (degraded) for these species.

ENR Response:

The statement is clearly qualified as a possibility only.

Comment #57

Page XI-48

Timber harvest is not one of the management objectives at Rice Lake so discussion of silvicultural and agroforestry techniques is not pertinent.

ENR Response:

The purpose of the Land Report is to discuss the resources of the petition area, and is not limited to DOC management objectives.

Comment #58

Page XI-49

A reforestation project at Banner Marsh would not be reliable in predicting success of reforestation at Rice Lake. Reclamation techniques were very different at Banner Marsh as compared to the current requirements which would be imposed at Rice Lake.

ENR Response:

The authors agree and have deleted the sentence in question.

Comment #59

Page XI-52

The reference regarding Herpitle repopulation of unreclaimed sites is not pertinent.

ENR Response:

Agreed - it has been deleted.

Comment #60

Page XI-70 & XI-71

Further discussion on the recreational impacts is necessary. For instance, no discussion on an expanded Banner Marsh, including hunting, was presented. Again, it would have been appropriate to inquire of DOC how recreational impacts would be treated under a mining scenario.

ENR Response:

The expanded Banner Marsh area was not analyzed as part of this report. The function of the Land Report is to discuss the land and land use within the RLCA; not to do a detailed comparison with Banner Marsh or any other area. Moreover, any discussion of the potential recreational impacts of an expanded Banner Marsh Wildlife Refuge (which does not now exist) would be pure conjecture.

Comments #61 & #62

Page XI-74, Pages XI-78 & XI-79

Funding and acquisition are treated as two separate issues in the draft 1983 SCORP. Listing them as "Funding/Acquisition" in the Report implies they are one issue.

ENR Response:

ENR has changed the final report to reflect the above comments.

Comment #63

Pages XI-76 & XI-77

While it is true that bottomland forests are considered wetlands, the 50,000 acres referenced does not include such areas. This figure represents areas which the general public views as wetlands such as swamps, bogs and marshes. Likewise the majority of Rice Lake itself would not be included.

ENR Response:

The authors appreciate this information. The content of the final Land Report has been clarified to reflect this comment.

Comment #64

Appendix F

The thirteen-lined ground squirrel is not State-threatened.

ENR Response:

This typographical error has been corrected.

Comment #65

Appendix I, page 1-4, par. 1

The exponent is assumed to be "2". The basis for this assumption is not clear.

ENR Response:

The methodology utilized in Appendix I is a conventional gravity model. Its purpose is to explain the geographic distribution of visitors to Rice Lake from within 50 miles (75% of the visitors). The exponent 2 was used in this case because no empirical data is available which would indicate whether the exponent should be larger or smaller than 2. If one assumes that the RLCA is not unique, then the exponent should be larger. If so, the methodology would indicate that persons would not travel as far to the area. On the other hand, if one assumes that the RLCA is unique, the exponent would be smaller, and more persons would be shown as traveling greater distances to reach it.

Because no data (such as interviews with visitors) are available to indicate how far people travel to reach the area, it was assumed that the exponent would be 2. In any case, because only visitors within 50 miles are being discussed, the results are not that sensitive to the exponent chosen.





COMMENTOR: IL Department of Transportation, Div. of Water Res., D. Boyce

Comment #1

Under the authority of an Act in Relation to the Regulation fo Rivers, Lakes and Streams (Il. Rev. Stat. ch. 19, par. 52 et seq.), the Illinois Department of Transportation, Division of Water Resources would require that a permit be obtained for any construction within the floodway of the Illinois River. The review of such a permit application would include an evaluation of the construction's effects on the flood carrying capacity of the river, i.e., the river's ability to convey and store flood waters. For construction such as levees, this evaluation would include an assessment of the cumulative impacts which would occur due to encroachments from other reasonably anticipated flood plain uses. Although we are not disputing the conclusions contained in your draft report concerning the hydrologic and hydraulic impacts, we do question whether an appropriate cumulative effects' analysis has been performed.

ENR Response:

The appropriate cumulative effects analysis of the Rice Lake levee has not been made. Encroachments from other reasonably anticipated floodplain uses, however, already exist in the form of levees upstream and downstream from the proposed Rice Lake levee.

The increase in flood stages due to loss of storage caused by construction of the Rice Lake levee needs further study. As indicated in the revised text of the land report, the increase in stage for certain floods could exceed the 0.5 foot increase used by the Division of Water Resources to indicate "significant" stage rise in rural areas. This effect as well as the loss of conveyance should be investigated as part of the permit procedure. A permit to construct the Rice Lake levee has not been requested as of this writing.





COMMENTOR: Illinois River Valley Association; Chillicothe - Rome - Peoria Area; J.W. Baldwin

Comment #1

This Association is not convinced by the facts provided in the report that the proposed Rice Lake levee will not have a significant effect on upstream flooding of the Illinois River. By restricting the flow of water, the levees already built on the Illinois River south of Peoria have helped increase the frequency of serious floods (above 24 ft. level) in the Chillicothe, Rome and Peoria area. Since 1943, the Illinois River has flooded above the 24 ft. level eight times, of which seven of the eight times have been since 1970. Any aggravation to this already serious problem would not be acceptable to the hundreds of homeowners in the flood plain.

Our Association feels that before the Rice Lake project is approved, a much more in-depth study should be conducted by state and federal agencies to insure that no increased upstream flooding will be caused by Rice Lake levees. We believe further study by the Corp of Engineers will prove the levee project is more serious than first thought.

ENR Response:

In the revised Land Report text, tables XI-1, XI-2 and XI-3 from Hanson Engineers, Inc., 1982 show that for floods up to the 100-year event, construction of the Rice Lake levee would increase stages upstream by a maximum of 0.14 feet due to a loss of conveyance. Existing levees have already restricted conveyance in the floodplain to the extent that this new levee would have minimal impact.

The loss of storage volume, however, as indicated in the revised text, may aggravate flooding more than allowable for approval of a state permit for construction of the levee. A detailed study would have to be done to assure that storage reduction caused by the levee does not significantly increase flood stages. This study would be undertaken by the party that requests the construction permit and would be reviewed by the Illinois Division of Water Resources. No permit has been requested to date.

Comment #2

We also believe that the additional study should include the effects that restricted river flow has on increased siltation upstream. According to the Illinois Natural History Survey Biological Notes #119 published in April, 1983, Peoria Lake has only an average half-life of 24 years due to siltation. If not remedied, this means the loss of the use of Illinois' largest lake in the not too distant future. This natural resource must be preserved and not threatened further.

ENR Response:

Based on the available information (Lee and Stall, 1976; Lee and Stall, 1977; Bellrose et al., 1983), the siltation conditions in the Illinois River are severe indeed. The authors agree that additional study is needed to identify the effects of sedimentation in the Illinois River.

COMMENTOR: James R. Kirk; Champaign, Illinois

Comment #1

The model in Appendix I is based on the erroneous premise that the RLCA is not unique. Even though pages 19, 43, & XI-70 indicate it is the only "permit duck hunting" area in the state. On page 43 the RLCA is said to not have electricity, true then, but on July 17th I saw electricity being installed at RLCA camping sites. Does Anderson Lake or Banner Marsh have the wide diversity of plants or of migratory and resident wildlife? RLCA is unique; it is part of the public domain, a public trust, held by IDOC; yet pages 42 & XI-72 indicate Anderson Lake and Banner Marsh have similar facilities.

ENR Response:

The model provided in Appendix I is based on the number of visits to the RLCA, and includes no variables other than distance and visits. Uniqueness recreational activities available, and diversity are not accounted for in the model, because we know of no method to measure such variables. While the availability of "permit duck hunting" does make Rice Lake unique, hunters account for less than 2% of annual RLCA visits (see Chapter IX Recreational Use and Value Section) and thus have minimal impact on the model provided in Appendix I. Electricity is now available at the RLCA...the text has been changed to reflect this fact. (See also response to DOC specific Comment #65).

Comment #2

How was the average number of visitors in Appendix I found? In my visits to RLCA I have yet to see any IDOC employees, therefore must assume the visitor figures are low. With these figures and a model based on an erroneous premise, the estimates of the economic losses due to mining the RLCA is understated.

ENR Response:

The number of visits to the RLCA was calculated by averaging the Department of Conservation's Attendance Report figures for the last five years. DOC uses a car counter at many of their sites (including Rice Lake) to estimate annual attendance. As indicated in Chapter IXG-Recreational Use and Value section, DOC estimates that each car at RLCA contains 3.5 persons. The 73,749 visits indicated in Appendix I represent those visits by persons residing within 50 miles. As shown in Chapter IXG, Recreational Use and Value section, the site superintendent estimates that 75% (approximately 73,749) of the RLCA visits come from within 50 miles.



Comment #3

[In the draft land report, there is an inconsistency between figures reported on page XI-71 and those reported in Table X-30 (page X-66). These numbers refer to the statewide economic impact of the RLCA.]

ENR Response:

The larger values reported, in the draft on page XI-71 (\$33.5 million and \$8.8 million) are the results of a REMI-ILFS simulation. However, further consideration of this particular simulation suggested that the policy variable used to estimate the economic value of the RLCA was inappropriate. The policy variable involved treating all 98,000 annual visits to the RLCA as being visits from out-of-state tourists. This is not the case; therefore, the larger reported values are not accurate. They should have been deleted from the text. The reported \$25.8 million and \$6.6 million magnitudes are accurate; are the only values reported in the final report; and are consistent with the values reported in Table X-30. An explanation and justification of the REMI/ILFS models is contained in the Impact on Illinois Economy subsection of Chapter X as well as the State Economic Impact subsection of Chapter IX. ENR regrets any confusion or misunderstanding which resulted from this oversight in editing the draft land report.

Comment #4

Finally there is no mention of the RLCA's intrinsic value. What is the value to the citizens of Illinois just knowing a place like the RLCA exists?

ENR Response:

Although the RLCA undoubtedly has intrinsic value to some citizens, we are unaware of any method by which to measure such a value.

Comment #5

It would have been less confusing to have in the appendix some of the reference material noted on page REF-11, such as: Rice Lake Mining issues, Banner Marsh management plan, and Rice Lake/Banner Marsh development and operations memo. Page 23, 38, & XI-28 indicate that a mined RLCA will be better able to meet the IDOC management goals. Page II-10 say RLCA is operated and maintained for the primary purpose of waterfowl management, Page V-18 says "The Conservation Area was utilized

to provide an optimum environment for waterfowl migration during autumn and for fishing, hunting and camping.", I guess this is no longer the case. While page V-38 indicates RLCA is managed to improve waterfowl habitats to obtain better hunting, and pages VII-33 & 34 speak to management plans and practices about sedimentation and commercial fishing. Without the reference materials I am confused about what IDOC is trying to do in the RLCA, or maybe they don't know either.

ENR Response:

The reference to IDOC meeting management goals was not directed at specific IDOC goals. The proposed levee would provide protection against flooding for the area up to the 100 year flood (1% chance of occurrence in a given year). This would allow management to pursue the development of facilities or uses with the knowledge that they would not be subjected to frequent flooding. This response has been incorporated in the text of the revised Land Report.

Comment #6

This same confusion carries over into the reclamation parts of the draft report. Each saying about the same thing; a well designed and executed reclamation plan could, in time result in an overall increase in the value of the area for ??????, assuming that %%% would be available. But if deep waters are provided for sport fish then the wading birds will need to be issued stilts, and if shallow waters are provided for the wading birds then the chemical condition of the water will change from what is provided in the report. (pages 25, 26, 53, XI-28:29, XI-46:53) But in the Table on VII-4 we can tell that the expected change will be better for both waterfowl and sport fish. And anyway with "state of the art" reclamation we can grow sugar maple (34" dbh) and red and white oak (40" dbh) in 75 to 100 years--5 generations. (pages 24, 39, VII-14)

ENR Response: See response to DOC general comment #12.

Comment #7

Pages III-10:13, III-52:57, X-2, X-17:21, X-66:67, & Appendix J; indicate the reserves of coal for the area. These are generally couched in the context of "other surface-minable coal reserves with high development potential". RLCA doesn't even fit into this class of reserves, because it has minor obstacles.

ENR Response:

The Rice Lake coal block is not included in the estimates of other surface minable coal reserves with high development potential; the amount of coal in the Rice Lake block is compared to other surface-minable coal reserves with high development potential. The draft land report was very explicit in making this point, especially on pages X-17 and X-18. Moreover, as explained on page X-8, the presence of minor obstacles does not preclude a coal block from having a high development potential.

Comment #8

Underground minable reserves are not even mentioned even though between 1970 and 1980 half of the coal mines opened in Illinois were underground mines. The reserves of minable coal in the region are understated.

ENR Response:

Deep-minable reserves were considered. However, according to Treworgy and Bargh (1982), there are no deep-minable coal resources in Fulton, Knox, McDonough, Peoria, Schuyler and Warren counties that have a high development potential. As explained on Page X-9, coal blocks with a high development potential are those that can be economically and profitably mined. For these reasons, no mention was made of deep-minable coal resources in the draft land report. However, text has been added to Chapter III, Mining History and Coal Resources Section of the final land report which delineates and explains the absence of minable deep coal in the six-county region. The estimates of coal reserves (all surface-minable) used in the draft and final land report are appropriate and complete.

Comment #9

Page XI-61 speaks of new jobs, but are we talking about new jobs or just the loss of fewer jobs. Pages 63, IX-10, & XI-69 indicate that Buckheart 17 will be closing in 3 to 4 years and projected openings for a mine in RLCA is placed as 1986 (page 69). Therefore it would be a net loss of 60 to 110 jobs.

ENR Response:

ENR agrees. The reference to "new" jobs on page XI-61 of the draft land report was made only for the purposes of explaining how a SEAM analysis works. It does not refer to actual findings.



Comment #10

Page XI-19, I always thought of high sulfate levels in water to be more than an aesthetic problem, but then I guess a laxative could cause some aesthetic problems.

ENR Response:

The statement in question is: While limits for total dissolved minerals, sulfate, and manganese are established for aesthetic purposes (taste, color, odor, etc.), limits for lead and cadmium are based on limits of toxicity." Waters with a sulfate content greater than 600 mg/l can produce temporary cathartic effects, which, in turn, have resulted in establishing limits for sulfate content (Lehr, et al. 1980). The statement in question was intended to differentiate between toxic limits and those established for other reasons. Consequently, this statement is changed to read: "Total dissolved minerals, sulfate and manganese are not usually toxic; limits for lead and cadmium are based on limits of toxicity.

Comment #11

Page XI-17, if the alleged groundwater discharge zone could be accounted for by the presence of a coal subcrop, will not the area be disturbed by mining said coal, or coal up-gradient from the subcrop.

ENR Response:

The mechanism for the alleged discharge zone was speculated to be a preferential path of flow created by the presence of a remnant of sand and gravel in proximity to a coal subcrop. The mining in the area would result in the removal of this sand and gravel, as well as changing the location of the coal subcrop, thereby by removing this preferential path. Consequently, the local discharge area, if it exists, would be removed by mining.

The removal of this local discharge zone should not significantly disrupt the regional hydrologic balance. Flow in the bedrock aquifer system is considered negligible when compared with the estimated magnitude of flow in the shallow, non-indurated aquifer (page V-8). Thus, the flow through any single unit is a fraction of the total flow in the Pennsylvanian system, and must also be considered negligible.

The final version of the Land Report has been amended in Section VA-Groundwater Flow System and Section XI-Groundwater to reflect this clarification.

Comment #12

Pages 15, I-15, II-7, VII-10, VII-40-43, XI-55, and F-4 say that a reasonably well documented use area of a federal endangered species (eagles) will be destroyed. They only indicate that overwintering eagles use the RLCA and they will lose both their food supply and roosting sites. It may surprise some to learn that we watched a pair of Bald Eagles tumbling in their mating flight May 2nd, 1982 over the north end of Hoxie Ridge; this is after the usual migration period. These eagles would lose more than a winter roost.

ENR Response:

The final Land Report includes a reference to your observations.

Comment #13

Pages 7 and XI-79, the mining of Conservation's lands are also incompatible with those same funding and acquisition goals. As a citizen I am less likely to support an agency which destroys the lands it is suppose to protect. Also those who give donations, life estates, and gifts are less likely to do so as the IDOC continues to allow highway construction and other non-conservation uses of conservation lands (mining). I know of many cases where such lands were given to private groups like Nature Conservancy and Audubon because of the lack of trust in IDOC's willingness to protect such lands. These loses outweigh any gain from the mining of the RLCA.

ENR Response:

Insofar as DOC would receive additional land as a result of leasing the RLCA to be mined, it is not, in the authors' opinion, incompatible with their funding and aquisition goals.

Comment #14

Pages 2 and I-11 says the land report will address all of the petition's allegations. The petitions first allegation is never fully addressed--reclamation is not feasible. Many conditional statements are made which indicate that it may in time be technologically feasible, but none prove it to be so. In fact several places the land report indicates that before mining maybe we should prove that reclamation is technologically feasible, using Banner Marsh as the testing grounds. The economic feasibility of reclaiming RLCA after mining never mentioned. (Pages XI-8, XI-45, XI-51.)

ENR Response:

See response to DOC general Comment #12.

COMMENTOR: Save Rice Lake Area Association; John Grigsby, Sr., President

Comment #1

Page 43 (summary), line 13

Reads: "The area affected by reduced visibility would be restricted to only a few feet down-stream from the mine."

Delete: The word downstream.

Should read: Due to the prevailing wind direction at Peoria which is from the south during all months except February and March, the affected area would have reduced visibility for several hundred feet upstream.

Reason for change: If the wind is out of the south it is impossible for the mine dust and aerosols to drift downstream.

ENR Response:

The word down-stream has been changed to down-wind in the revised text.

Comment #2

Page 44 (summary), par. 2

Reads: It is not known where specific mining might take place in the RLCA and therefore assessment of impacts regarding buffer area is not possible. However, it is anticipated that any potential conflict could be mitigated.

Delete: The statement - "However it is anticipated that any potential conflict could be mitigated."

Reason for change: How can ENR anticipate mitigation of a potential conflict of which they have not knowledge of the magnitude or the location:

ENR Response:

The sentence referred to has been deleted.

Comment #3

Page II-26, figure II-2 (chart)

You omitted the review and recommendation by the Conservation & Natural Resource Committee of the Fulton County Board. Please re-address this exclusion.



ENR Response:

Thank you for pointing out this omission. The final Land Report has been corrected.

Comment #4

Page 49 (summary), line 1

Reads: Inflow to this area, instead of being held by the lake, will be pumped away.

Please clarify: Pumped away to where?

Reason for question: This is not clear and should be addressed in great detail the discharge area, the discharge rate, the size and description of the reservoir from which it is pumped away.

ENR Response:

Bluff runoff could be diverted around the mine area or could be pumped into a retaining area and eventually into the adjacent drainage ditch or the Illinois River as indicated in the revised text.

COMMENTOR: Southern Illinois Audubon Society; W. Clark Ashby, Conservation Chairman

Comment #1

I wish to commend the preparers of the draft Land Report for a thorough and comprehensive presentation, given time constraints and limitations in the present data base for such studies. Its strength is greater in postulating expected short-term losses (costs) in present values of the Rice Lake area from mining compared to possible long-term gains (benefits). More attention could well be given to the processes of succession in community development, and to the significance of introduced species (weeds) in the early stages of succession.

ENR Response:

The report is stronger in postulating short-term losses than long-term gains that would result should RLCA be mined. Because of the lack of a reclamation plan, it is impossible to comment on all the possible scenarios and their respective long-term benefits to the system. ENR agrees that if mined, during the revegetation process, early successional species, be they introduced or native species, should be utilized for rapid slope stability and early wildlife diversity. These early successional species often create conditions suitable for later successional species establishment, which results in the displacement of the earlier species. The text has been amended to clarify this point.

Comment #2

The Petition is the first instance known to me in which a citizens group has endorsed natural communities as a higher and better land use, compared to corn for example, under P.L. 95-87. This action could well herald a new and important change of philosophy toward reclamation. The societal values of natural areas and wildlife have too long been neglected in land-use planning of surface-mined areas. Rice Lake has high value for possible demonstration of both aquatic and terrestrial reclamation techniques for non-agricultural needs.

ENR Response:

If the RLCA were mined, it indeed would be one of the largest parcels of land ever to be reclaimed to the wildlife end use. It would be an opportunity to study and demonstrate various reclamation techniques hitherto utilized only in small segments of land/water in the Midwest.

Comment #3

... I feel a serious omission in such a Report is a failure to document, or even recognize, the possibilities of improved soils and vegetation in reclamation. Restoration may not be good enough. With reference to page XI-31, par. 1, much research information is already available showing the value of using materials lower in the overburden for constructing post-mining soils. Attention must be paid to particle sizes greater than 2 mm in building minesoils. Coarse fragments contribute to improved soil, air and water relations, to better pH and nutrient levels, and lessen compaction damage. The literature cited emphasizes agricultural studies which are scarcely appropriate for the land uses proposed in the Rice Lake plan.

ENR Response:

The report is deficient in discussing the possibility of improving soils and vegetation through the utilization of coarse materials. It has been shown by your group (SIU) to be a beneficial technique in establishing woody vegetation in southern Illinois. It would also likely be beneficial, in the event RLCA were mined, to create varying soil conditions such that greater plant diversity, and consequently wildlife diversity, would be possible. ENR maintains, however, that the Rodman soil (a gravel soil) or the gravel overburden materials (see Plate III-6) would not be good plant growth media by themselves, but would have to be mixed with silty materials to increase water holding capacity and cation exchange capacity. In general, since the RLCA soils do not suffer acidity or nutrient-deficient problems, the main advantages to incorporating coarse material would be reducing compaction and increasing permeability. Advantages from additions of coarse material to southern Illinois soils would likely be greater because of generally older, nutrient-poor and acid soils such that overburden material improved soil quality. Thank you for this contribution.

Regarding the literature emphasizing agricultural studies, this is true because most research from that part of the state has been agricultural in nature. In Chapter XI, subsection "Plant Selection," seven references, including two of yours are mentioned which should be consulted before designing the reclamation plan. These references are appropriate to Rice Lake.

Comment #4

Page XI-36, par. 3, speaks of "... best current practices ...", which needs clarification. "Current practices" have yet to merit a connotation of "best." Mining an area such as Rice Lake should be planned to use reclamation practices which maximize the potential for productive ecosystems. Alternative practices should be implemented under P.L. 95-87



as variances and as experimental practices to the prevailing requirements. Examples of potentially better practices are use of dragline pullback for approximate grading to lessen compaction, greater mixing of overburden materials, and band plantings of trees and grass-legume mixes to eliminate the problem of herbaceous cover overwhelming tree seedlings. Use of these practices will fulfill the intent of the Act for better long-term reclamation.

ENR Response:

ENR agrees that, if RLCA were mined, alternative practices other than those mandated by P.L. 95-87 should be implemented as variances and as experimental practices. When "best current practices" were referred to, ENR intended to not only include the mandated requirements, but also the techniques such as you cite which would often be better in fulfilling the desired RLCA end uses. The text has been amended to say "innovative" rather than "best current."

Comment #5

Clarification may be needed in the Report that mining is a process which takes place over a number of years. Habitats are improved for some species and degraded for others. Species are displaced to other habitats over a period of time, and the reclaimed areas rapidly become available for wildlife use as shown by the return of the giant Canada goose to Knox and Fulton counties on strip mined lands.

ENR Response:

The summary and Chapter VII of the final Land Report have been modified to indicate that some of the predicted negative impacts of mining on wildlife would not necessarily occur at the outset of mining and might also be only temporary.



COMMENTOR: Glennon V. Tockstein, SIU School of Medicine

Comment

I have observed adult bald eagles on two separate days in May of 1982 in both defensive and mating behavior at Rice Lake. Nesting adult bald eagle habitat at Rice Lake has been documented with the Department of Conservation before this report was initiated. ... there are other endangered species at Rice Lake that also were not included in the report ...

ENR Response:

Reference to the sighting of adult bald eagles at Rice Lake in May 1982 has been included in the final Land Report. Further documentation of other endangered species has also been provided.





COMMENTOR: Tri-County Regional Planning Commission; Robert L. Pinkerton,  
Executive Director

Comment #1

This agency is very concerned about the potential for increased flood heights, on the Illinois River, when floodplain storage area is removed by constructing a levee at the Rice Lake Conservation Area ... The (detailed flood insurance) study (for Tazewell County) indicates that the floodway, for this segment of the Illinois River, extends from the Spring Lake Drainage District Levee on the east side of the Illinois River to the westerly shoreline of the Rice Lake Conservation Area.

The construction of a levee, within the designated floodway, to separate the Rice Lake Conservation Area from the Illinois River may cause flood levels to rise above the permissible 1/10 of a foot limit established by the Illinois Division of Water Resources. Any increase in flood height could have an adverse impact upon Tazewell and Peoria counties and the Village of Kingston Mines, each a participant in the National Flood Insurance Program.

Chapter XI, page 26, of the (draft Land Report) points out that "Downstream stages would not be affected by the loss of 50,000 acre-feet of storage volume as a result of a Rice Lake Levee." Excess floodwater tries to spill over the floodplain, but, hemmed in by levees, flood crests are forced even higher. Can the river safely discharge the ten-feet of water (50,000 acre-feet ÷ 4,500 acres of floodplain) previously stored in the lost floodplain area without significantly increasing upstream flood flow elevations?

The U.S. Geological Survey Water - Data Report IL-79-2, page 204, presents the following extremes for the Illinois River at Kingston Mines. On May 23, 1943, the maximum discharge was 83,100 C.F.S. and the maximum gage height 26.02 ft. (454.0 M.S.L.). On March 24, 1979, the maximum discharge was 72,300 C.F.S. and the maximum gage height 25.22 ft. (453.2 M.S.L.). A difference of 10,800 C.F.S. but only .8 ft. in elevation. We understand that when the river stage reaches 456-457 M.S.L., in Peoria, every 5,000 additional C.F.S. raises the river nearly one foot.

Should the same 1943 discharge (83,100 C.F.S.) be experienced again in the future, with the proposed levee in place, we are concerned that the additional channel constriction and levee building will cause further flooding problems.

We recommend that the U.S. Army Corps of Engineers and the Illinois Division of Water Resources be asked to address the hydraulic ramifications of the report and that their evaluations be incorporated as an amendment to the final version, and that detail considerations be given to upstream flooding potential.

ENR Response:

Based on a report by Hanson Engineers, Inc., 1982, constructing the proposed Rice Lake levee would not increase river stages more than allowed. This is below the criteria set by the Illinois Division of Water Resources for levees in rural areas (0.5 feet) but above that set for urban areas (0.1 feet). See Tables XI-2, XI-3 and XI-4 of the revised Land Report text. The increases shown on these tables are due to loss of conveyance and would not significantly affect surrounding areas. The effect of removing 4,500 acres of floodplain storage could be more serious.

The Hanson report did not provide a numerical analysis of loss of storage and its effect on the flood stage. The revised Land Report text provides an analysis of the effect of loss of storage on the 1979 flood hydrograph on the Illinois River. This was a multi-peaked event with a maximum discharge of 72,200 cfs. Due to the loss of storage, peaks have been moved forward in time by one day (the river rises faster). Also, peak stages would have increased 0.3 feet during the first peak (March 12) and 0.1 feet during the maximum peak (March 24). Because of these findings, further study is needed to show the effect of the loss of floodplain storage during less frequent events.



COMMENTOR: Mildred A. Williams; Canton, Illinois

Comment #1

Page 36 - Erosion

[The commentor is concerned about] erosion problems in Banner Township due to highway drainage systems and lands that have already been mined out ... U. S. Route 24 (which is) close to the proposed mining site could be undermined by erosion ... strip mining activities may cause a land slide from the bluff areas ...

ENR Response:

The hillsides west of U. S. Route 24 are indeed eroding toward the lowlands. This will continue with or without mining. Since mining activities would be confined to the areas east of the highway, mining will not cut into the bluffs to the west and the likelihood of landslides in the bluffs would not likely be increased by mining. One cannot use the Banner Marsh area for comparison on whether or not reclamation can return the land to its original contour and productivity. The current reclamation regulations were not in force at the time of mining Banner Marsh. Recent research has shown that original productivity and contour can be obtained following mining, though this certainly isn't always the case.

Comment #2

Page 37 - Rice Lake may not be a source for water supply in this area at the present time but this does not mean that it couldn't be a source of water supply if necessary. Also if the lake was dredged out in order to keep deeper channels flowing through the lake it would also improve fishing, in my opinion ...

ENR Response:

It is unlikely that Rice Lake would ever be needed as a water supply due to the proximity of the Illinois River and the abundance of potential reservoir sites in Fulton County (Illinois State Water Survey Report of Investigation 56, 1966). Dredging of the lake would, however, increase it's capacity and enhance it's value as a water supply.

Comment #3

Page 37 - Proposed Levee - Perhaps changing the flood plain would not have any impact on the stream flow into the Illinois River, but with a levee

surrounding Rice Lake it would cause more water during flood seasons to back up on lands above and below the Rice Lake area...

ENR Response:

See responses to Tri-County Regional Plan Commission and the Illinois Department of Transportation.

Comment #4

Page 62 - Mentions a decrease in demand for high sulphur coal and farm equipment. I think strip mining has reduced the sale of farm equipment in farming areas...

ENR Response:

It appears that the commenter has noted an erroneous causal connection between two unrelated market phenomena; the decreased demand for high sulphur coal and decreased demand for farm equipment. Theoretically, one may expect that the lower the demand for high sulphur coal the less coal is being mined and therefore less farm land is being removed from production.

While it is true that surface coal mining may temporarily or permanently remove farmland from production, ENR is suggesting that the closing of the farm equipment manufacturing plant in Fulton County is primarily a result of the recent recession in the overall U.S. economy.

Comment #5

Page X-54 The report says the amount of property taxation in Fulton County has been relatively constant and surface mining has not altered that trend... For some reason...property taxes keep on rising for the farmers, homeowners and businesses. They certainly haven't remained the same and the land that has been stripped doesn't have the value that it had before it was stripped...

ENR Response:

According to a report by Caspall, Longwell and Yergler (1974) the relative change in total assessed rural land values between 1935 and 1973 for townships in Fulton and Knox counties has remained fairly constant. Assessments have increased uniformly over this period of time for townships with strip mining activities and for those townships having no strip mining activities. This fact suggests that surface mining has no apparent impact on land assessments in the area. In addition, land assessments on surface

mined lands are not "frozen" during mining. Surface mined lands in Fulton County have been assessed at the value of surrounding agricultural lands before, during, and after mining takes place.

Comment #6

Page 11-24 It seems rather unusual that great detail is given about the geological and archaeological structures and findings of the Mid-Western U.S. from 10,000 B.C. to the present time and then not have any specific knowledge about who settled in Banner Township and who the early settlers were... [Also], does the Department of Conservation actually have a legal title to all of the Rice Lake area. If so, how did they obtain it and how much did they pay for the the Rice Lake area?

ENR Response:

There is a significant difference in the breadth of perspective used to described the prehistoric and historic cultural setting of the RLCA. Information for the prehistoric cultural setting has been accumulated from achaeological data from Illinois in general because so little information is available from sites in the vicinity of the RLCA. In contrast, only information specifically referring to the RLCA was used to described the historic cultural setting. The references searched for historic information include various texts on the history of Fulton County, plat maps, and county atlases. Specific information regarding the RLCA or its immediate surroundings were not located, although there is much general information about Banner and Liverpool townships. The lack of information on the RLCA does not justify reporting a more general county history, it is sufficient to recognize that the area was settled in the early 1820's and that there may be historic sites in the RLCA.

With regard to the ownership of the RLCA, DOC has legal title to the area. It was obtained in six separate parcels between 1943 and 1977. The total cost to DOC of these parcels was \$170,839.50. Please note, however, that its value in 1983 dollars would be a great deal higher.

Comment #7

Page V-22 [The report] says the Illinois River provides plentiful surface and ground water supplies at all times [and therefore the lakes] are not needed for water supply purposes...[The commentor disagrees because] water supply [is needed] for the ducks, geese and fish that populate the lakes area...

ENR Response:

See response number #2 above.



Comment #8

Page X-21 [The commentor feels that] the economic statistics [presented in the report don't] mean much compared to the actual value (of the RLCA).

ENR Response:

ENR agrees that the RLCA has a value to the visitors and wildlife which cannot be measured in economic terms. The economic analysis presented within the Land Report are offered as a measure of the value of the area to the state and local economy, not as the overall value of the area.

Comment #9

Why would the federal government not include strip mining in its environmental impact statements? It would seem like strip mining would be one of the main industries that would be under environmental laws pertaining to land and water resources.

ENR Response:

The National Environmental Policy Act of 1969 (NEPA) would require that an Environmental Impact Statement be done prior to mining were mining activities undertaken on federal lands or with federal funds. Additionally, the federal Surface Mining Control and Reclamation Act of 1977 provides very specific mandates regarding strip mining, abandoned mines, reclamation and lands unsuitable for mining. However, since the RLCA is not on federal land, and since Illinois has a state mining law (the Illinois surface Coal Mining Land Conservation and Reclamation Act) which regulates mining activities, these two federal laws do not pertain to the RLCA mining issue.

Comment #10

[With regard to the] Fulton County Floodplain Ordinance... Personally I think the ordinance should have read should not take place -- also any one building in a flood zone after the ordinance was passed would not be eligible for flood insurance. They would build at their own risk and not be compensated for flood damages.

ENR Response:

Thank you for your opinion. While the ordinance does not state where development cannot take place, it is its intent to prevent unsafe or easily

damaged construction within the flood zone. Thus one could assume that a permit for construction would not be granted by the Zoning Enforcement Officer if such construction could cause "hazards to persons and damage to property resulting from flooding."





APPENDIX A

A  
PETITION  
TO DESIGNATE  
THE RICE LAKE CONSERVATION AREA  
AS LANDS UNSUITABLE FOR SURFACE COAL MINING



A  
PETITION  
TO DESIGNATE  
THE RICE LAKE CONSERVATION AREA  
AS LANDS UNSUITABLE FOR SURFACE COAL MINING  
RE: PL 95-37, SEC. 522 (E)

LOCATION: FULTON COUNTY, SOUTH OF BANNER, ILLINOIS, ROUTE 24,  
SECTIONS 21, 22, 23, 27, 28, 32 & 33 IN  
BANNER TOWNSHIP AND  
SECTIONS 4 AND 5 IN LIVERPOOL TOWNSHIP

PRESENTED TO: IL DEPARTMENT OF MINES AND MINERALS  
RM. 704 STRATTON OFFICE BUILDING  
SPRINGFIELD, IL 62706 AND TO:

IL DEPARTMENT OF MINES AND MINERALS  
227 S. 7TH ST., SPRINGFIELD, IL 62706

BY: THE SAVE RICE LAKE AREA ASSOCIATION, INC.  
ROUTE 3, CANTON, IL 61520  
(309) 647-4865.

JOHN GRIGSEY, PRESIDENT

OCTOBER 1, 1982



STATE OF ILLINOIS  
ILLINOIS DEPT. OF MINES AND MINERALS

IN THE MATTER OF

DESIGNATING CERTAIN LANDS)  
IN BANNER AND LIVERPOOL )  
TOWNSHIPS, FULTON COUNTY )  
ILLINOIS: THE RICE LAKE )  
CONSERVATION AREA AS )  
UNSUITABLE FOR SURFACE )  
COAL MINING OPERATIONS )

PETITION

INTRODUCTION

1. THE SAVE RICE LAKE AREA ASSOCIATION, INC., (SRLAA) ON ITS OWN BEHALF AND ON BEHALF OF ITS MEMBERS DOES HEREBY PETITION THE ILLINOIS DEPARTMENT OF MINES AND MINERALS (IDMM) TO DESIGNATE CERTAIN LANDS IN THE RICE LAKE CONSERVATION AREA AS UNSUITABLE FOR SURFACE COAL MINING OPERATIONS. THE PRESERVATION OF THESE LANDS IN BANNER AND LIVERPOOL TOWNSHIPS, FULTON COUNTY, ILLINOIS, IN THEIR NATURAL STATE IS NECESSARY TO PROTECT THE IMPORTANT RESOURCES FOUND IN ABUNDANCE THERE. THE SURVIVAL OF MANY FORMS OF WILDLIFE, FAUNA AND FLORA, FOR WHICH RICE LAKE IS A HABITAT MUST BE ASSURED BECAUSE OF THE COMPLEX CONNECTING LINKS BETWEEN MAN AND OTHER LIVING THINGS.

THIS AREA IS RICH IN ARCHEOLOGICAL SITES AND HAS OTHER HISTORICAL SIGNIFICANCE AS WELL. THE CONSERVATION AREA IS UNDERLAIN WITH CONTIGUOUS AQUIFERS BENEFICIAL TO THE RICE LAKE AND ADJACENT COMMUNITIES. MOREOVER, MOST OF THE AREA LIES WITHIN

THE CONFINES OF THE FEDERAL FLOOD PLAIN AND IS SUBJECT TO STRICT REGULATION.

THE RICE LAKE AREA OFFERS IMMEASURABLE AESTHETIC AND RECREATIONAL VALUES TO ALL SEGMENTS OF THE PUBLIC THE YEAR AROUND.

IT IS THE BELIEF OF THE SAVE RICE LAKE AREA ASSOCIATION, INC., THAT IT WOULD NOT BE IN THE BEST INTERESTS OF THE PUBLIC TO SUBJECT THE RICE LAKE CONSERVATION AREA - NOW OR EVER - TO THE IRREPARABLE DAMAGES SURFACE COAL MINING CAUSES.

THE DESIGNATION OF LANDS UNSUITABLE FOR SURFACE COAL MINING IS SOUGHT UNDER THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977, 30 USC 1201 ET SEQ. ("ACT") AND THE IMPLEMENTING REGULATIONS PROMULGATED BY OSM, 30 CFR § 700 ET SEQ., AND THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969, 42 USC §4321 ET SEQ., ("NEPA").

2: AVAILABLE DATA STRONGLY SUGGESTS THAT: A) THE AFFECTED AREA COULD NOT BE RECLAIMED AFTER SURFACE COAL MINING OPERATIONS; B) SURFACE COAL MINING OPERATIONS WOULD SERIOUSLY DAMAGE THE RICE LAKE CONSERVATION AREA AND ADJOINING LANDS AND WATERS; C) SURFACE COAL MINING OPERATIONS WOULD ADVERSELY AFFECT WATER QUALITY AND QUANTITY CAUSING DAMAGES TO ESSENTIAL HYDROLOGIC FUNCTIONS; D) SURFACE COAL MINING OPERATIONS WOULD ADVERSELY AFFECT WILDLIFE RESOURCES BY DAMAGING A/O DESTROYING HABITAT; E) SURFACE COAL MINING OPERATIONS WOULD SERIOUSLY DAMAGE A/O DESTROY PREHISTORIC AND HISTORIC HIGH SITE DENSITIES LOCATED WITHIN THE AREA. F) SURFACE COAL MINING OPERATIONS WOULD ADVERSELY AFFECT FRAGILE LANDS IN THE AREA AND ADJACENT AREAS; G) SURFACE COAL MINING OPERATIONS WOULD SERIOUSLY DAMAGE A/O DESTROY PUBLIC USE OF THE PUBLICLY OWNED FACILITY.

3. PETITIONERS SEEK THIS DESIGNATION UNDER THE FOLLOWING PROVISIONS OF THE ACT AND ITS REGULATIONS WHICH PROTECT CERTAIN LANDS FROM SURFACE COAL MINING OPERATIONS WHEN:

(A) CERTAIN LANDS CANNOT BE RECLAIMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ACT.

30 USC §1272 (A) (2)

30 CFR §762.11 (A)

- (B) OPERATIONS COULD RESULT IN SIGNIFICANT DAMAGE TO IMPORTANT HISTORIC, CULTURAL, SCIENTIFIC AND AESTHETIC VALUES AND NATURAL SYSTEMS OF FRAGILE LANDS.

30 USC §1271(A)(3)(B)

30 CFR §762.11(b)(2)

761.11(c)

- (C) OPERATIONS WOULD RESULT IN LOSS OR REDUCTION OF LONG-RANGE PRODUCTIVITY OF WATER SUPPLIES INCLUDING DAMAGE TO AQUIFERS AND AQUIFER RECHARGE AREAS OF WET AND FRAGILE LANDS.

30 USC §1271(A)(3)(C)

30 CFR §762.11(b)(3)

- (D) OPERATIONS WOULD DEPRIVE THE PETITIONERS AND OTHER PUBLIC OF THEIR RIGHTS AND PRIVILEGES TO ENJOY THE AREA ALREADY SET ASIDE IN AN EXISTING STATE LAND USE PLAN FOR RECREATIONAL USES.

OPERATIONS WOULD RESULT IN SIGNIFICANT DAMAGE TO AESTHETIC VALUES AND TO NATURAL SYSTEMS THE PUBLIC NOW ENJOYS. IMPAIRED VISIBILITY AND NOISE POLLUTION WOULD FURTHER CURTAIL USE.

30 USC §1272 (A)(3)(A)

(A)(3)(B)

4. A SURFACE COAL MINE WAS PROPOSED WITHIN THE BOUNDARIES OF THE RICE LAKE CONSERVATION AREA AS EARLY AS 1979 AND HAS COME LATELY UNDER INTENSE CONSIDERATION BY ILLINOIS DEPARTMENTAL AGENCIES. IMMINENT POTENTIAL FOR REVITALIZATION OF THIS PROPOSAL EXISTS BECAUSE SURVEYING AND EXPLORATORY DRILLING FOR COAL HAS ALREADY BEEN ACCOMPLISHED.



AT PRESENT NO OPERATOR CAN CLAIM VALID EXISTING RIGHTS TO THE COAL UNDER THE CONSERVATION AREA NOR DOES ANY UTILITY HOLD ANY CONTRACT OR LEASEHOLD FOR THIS COAL. ALTERNATE SOURCES OF COAL SUPPLIES ARE AVAILABLE ELSEWHERE TO ANY UTILITY SERVICING THE LOCAL OR SURROUNDING AREA.

ALTHOUGH NO PERMIT APPLICATION TO SURFACE MINE THE COAL UNDER THE RICE LAKE AREA HAS BEEN FILED, NEWSPAPER ARTICLES AND THE BOOKLET, "RICE LAKE MINING ISSUES", PUBLISHED BY IL DEPT OF CONSERVATION AND SENATE BILL # 1065 CLEARLY ESTABLISHES THAT THE STATE OF ILLINOIS SOUGHT TO LEGALLY DESIGNATE THE RICE LAKE CONSERVATION AREA AS PROPERTY ELIGIBLE FOR SURFACE MINING FOR COAL AND OTHER MINERALS OR FOR LEASING TO A MINING COMPANY WITHIN THE NEXT FIVE YEARS.

THEREFORE THE PETITIONERS REQUEST TIMELY AND PROPER CONSIDERATION OF THIS PETITION BELIEVING THAT THE POTENTIAL STILL EXISTS WHICH COULD SERIOUSLY AFFECT THE ENJOYMENT AND EXERCISE OF THE PETITIONERS BEST INTERESTS.

BASED UPON EXTENSIVE RESEARCH AND ANALYSIS BY PRIVATE AND GOVERNMENTAL AGENCIES, THE PETITIONERS CONCLUDE THAT A COMBINATION OF ALTERNATIVE ENERGY POTENTIALS EXISTS WHICH COULD PROVIDE AN ENERGY YIELD WITHOUT IRREPARABLY DAMAGING ONE OF THE STATE'S MOST VALUABLE AND IMPORTANT CULTURAL AND SCENIC NATURAL AREAS.

THE ACT AND REGULATIONS, 30 USC §1272 (d); 30 CFR §769.17(e) AND NEPA, 42 USC §4332(2)(E); 40 CFR §1501.3(c), 1507.2(d), REQUIRE OSM TO "STUDY, DEVELOP AND DESCRIBE " THESE ALTERNATIVES IN CONSIDERING THIS PETITION.

AREA SOUGHT TO BE DESIGNATED UNSUITABLE  
FOR SURFACE COAL MINING OPERATIONS

5. AN UNSUITABILITY DESIGNATION IS SOUGHT FOR THOSE STATE LANDS IN THE FOLLOWING TOWNSHIPS IN FULTON COUNTY, ILLINOIS:  
TOWNSHIP 6 NORTH, RANGE 5 EAST OF THE 4TH P.M.

1.

PART OF SOUTH HALF ( $S\frac{1}{2}$ ) OF SECTION TWENTY-ONE (21) DESCRIBED AS FOLLOWS: BEGINNING AT A POINT FORTY (40) RODS SOUTH OF THE NORTHEAST CORNER OF SOUTH HALF ( $S\frac{1}{2}$ ) OF SAID SECTION TWENTY-ONE (21), THENCE WEST EIGHTY (80) RODS; THENCE SOUTH TWENTY-SIX AND TWO-THIRDS ( $26\frac{2}{3}$ ) RODS; THENCE WEST TO THE EAST LINE OF THE RIGHT OF WAY OF A PUBLIC HIGHWAY KNOWN AS STATE ROUTE 100, THENCE IN A SOUTHWESTERLY DIRECTION ALONG THE EAST LINE OF THE RIGHT OF WAY OF SAID ROUTE 100, TO WHERE THE SAME INTERSECTS THE SOUTH LINE OF SAID SECTION TWENTY-ONE (21), THENCE EAST TO THE SOUTHEAST CORNER OF SAID SECTION TWENTY-ONE (21), THENCE NORTH ALONG THE EAST SIDE OF SAID SECTION TWENTY-ONE (21), TO THE PLACE OF BEGINNING, EXCEPTING THEREFROM THE FOLLOWING DESCRIBED TRACT OR PARCEL, TO-WIT: BEGINNING AT A POINT 240 RODS EAST AND TWENTY-SEVEN (27) RODS NORTH OF THE SOUTHWEST CORNER OF SAID SECTION TWENTY-ONE (21), THENCE WEST TO THE PUBLIC HIGHWAY KNOWN AS STATE ROUTE 100, THENCE IN A SOUTHWESTERLY DIRECTION ALONG THE EAST SIDE OF SAID ROAD TO A POINT TWENTY (20) RODS DIRECTLY NORTH OF THE SOUTH LINE OF SAID SECTION TWENTY-ONE (21) THENCE EAST TO A POINT DIRECTLY SOUTH OF THE POINT OF BEGINNING, THENCE NORTH SEVEN (7) RODS TO THE PLACE OF BEGINNING, CONTAINING 124 ACRES, MORE OR LESS.

2.

THE NORTHEAST QUARTER (NE $\frac{1}{4}$ ) OF SECTION TWENTY-TWO (22) AND ALSO THE SOUTH ONE-HALF (S $\frac{1}{2}$ ) OF SECTION TWENTY-TWO (22) AND ALSO A PART OF THE NORTHWEST QUARTER (NW $\frac{1}{4}$ ) OF SECTION TWENTY-TWO (22) DESCRIBED AS FOLLOWS: BEGINNING AT A POINT FIFTY (50) RODS SOUTH OF THE NORTHEAST CORNER OF SAID QUARTER SECTION RUNNING THENCE WEST FORTY (40) RODS THENCE SOUTH THIRTY-FIVE (35) RODS, THENCE WEST SEVENTY (70) RODS, THENCE SOUTH SEVENTY-FIVE (75) RODS, MORE OR LESS, TO THE SOUTH LINE OF SAID QUARTER SECTION, THENCE EAST ALONG THE SOUTH LINE OF SAID QUARTER SECTION TO THE SOUTHEAST CORNER THEREOF, THENCE NORTH ALONG THE EAST SIDE OF SAID QUARTER SECTION TO THE PLACE OF BEGINNING, CONTAINING 541 ACRES, MORE OR LESS.

3.

THE NORTH ONE-HALF (N $\frac{1}{2}$ ) OF SECTION TWENTY-THREE (23) AND THE NORTH ONE-HALF (N $\frac{1}{2}$ ) OF THE SOUTHWEST QUARTER (SW $\frac{1}{4}$ ) OF SECTION TWENTY-THREE (23), CONTAINING 400 ACRES, MORE OR LESS.

4.

THE NORTH ONE-HALF (N $\frac{1}{2}$ ) OF THE NORTHWEST QUARTER (NW $\frac{1}{4}$ ) OF SECTION TWENTY-SEVEN (27) AND THE SOUTHWEST QUARTER (SW $\frac{1}{4}$ ) OF THE NORTHWEST QUARTER (NW $\frac{1}{4}$ ) OF SECTION TWENTY-SEVEN (27), CONTAINING 120 ACRES, MORE OR LESS.

5:

THE NORTHEAST QUARTER (NE $\frac{1}{4}$ ) OF SECTION TWENTY-EIGHT (28) AND ALL THAT PART OF THE NORTH ONE-HALF (N $\frac{1}{2}$ ) OF THE NORTHWEST QUARTER (NW $\frac{1}{4}$ ) OF SAID SECTION TWENTY-EIGHT (28) LYING EAST OF PUBLIC HIGHWAY KNOWN AS STATE ROUTE 100, ALSO THE SOUTH HALF (S $\frac{1}{2}$ ) OF THE NORTHWEST QUARTER (NW $\frac{1}{4}$ ) OF SAID SECTION TWENTY-EIGHT (28), ALSO THE SOUTHWEST QUARTER (SW $\frac{1}{4}$ ) OF SAID SECTION TWENTY-EIGHT (28), ALSO THE NORTH ONE-HALF (N $\frac{1}{2}$ ) OF THE SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF SAID SECTION TWENTY-EIGHT (28), ALSO THE SOUTHWEST QUARTER (SW $\frac{1}{4}$ ) OF THE SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF SAID SECTION TWENTY-EIGHT (28), CONTAINING 554 ACRES, MORE OR LESS.



6.

PART OF THE SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF THE SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF SECTION TWENTY-NINE (29) BEING ALL THAT PART OF SAID SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF SAID SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF SECTION TWENTY-NINE (29) LYING EAST OF THE PUBLIC HIGHWAY KNOWN AS STATE ROUTE 100, EXCEPTING THEREFROM THAT PART OF TEN (10) ACRES OFF THE SOUTH SIDE OF SAID SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF THE SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF SAID SECTION TWENTY-NINE (29) WHICH LIES EAST OF SAID PUBLIC HIGHWAY; CONTAINING 12 ACRES, MORE OR LESS.

7.

PART OF THE SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF SECTION THIRTY-TWO (32), BEING ALL THAT PART OF SAID SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF SAID SECTION THIRTY-TWO (32) LYING EAST OF THE PUBLIC HIGHWAY KNOWN AS STATE ROUTE 100, CONTAINING 106 ACRES, MORE OR LESS.

8.

THE NORTHWEST QUARTER (NW $\frac{1}{4}$ ) OF THE NORTHEAST QUARTER (NE $\frac{1}{4}$ ) OF THE SECTION THIRTY-THREE (33), AND THE NORTHWEST QUARTER (NW $\frac{1}{4}$ ) OF SAID SECTION THIRTY-THREE (33), AND THE SOUTHWEST QUARTER (SW $\frac{1}{4}$ ) OF SAID SECTION THIRTY-THREE (33) EXCEPT THE SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF THE SOUTHEAST QUARTER (SE $\frac{1}{4}$ ) OF THE SOUTHWEST QUARTER (SW $\frac{1}{4}$ ) OF SAID SECTION THIRTY-THREE (33), CONTAINING 350 ACRES, MORE OR LESS.

ALL OF THE ABOVE PREMISES CONVEYED SUBJECT TO ALL EXISTING HIGHWAYS, EASEMENTS AND COVENANTS RUNNING WITH THE LAND, IF ANY.

STATE OF ILLINOIS

LIVERPOOL TOWNSHIP

325 18-6 N PT NW & W  $\frac{1}{2}$  SW NW SEC. 4328 18-9 PT N  $\frac{1}{2}$  NE & E OF RT 24 &S  $\frac{1}{2}$  NE E OF RT 24 SEC. 5

IDENTIFICATION AND INTEREST OF PETITIONERS

6. PETITIONER, THE SAVE THE RICE LAKE AREA ASSOCIATION, INC., IS A NON-PROFIT ILLINOIS CORPORATION WITH ITS PRINCIPAL OFFICE AT ROUTE THREE, CANTON, ILLINOIS 61520. IT IS A LOCAL CONSERVATION ORGANIZATION DEDICATED TO PRESERVATION OF THE WATERS, WILDLIFE AND WILDERNESS OF THE RICE LAKE CONSERVATION AREA. ALTHOUGH ITS MEMBERSHIP IS STATE-WIDE, MOST OF ITS MEMBERS RESIDE IN CLOSE PROXIMITY TO THE AREA.

THE ASSOCIATION HAS ACTIVELY DEVOTED ITS TIME AND RESOURCES TO ISSUES CONCERNING THE MANAGEMENT OF RICE LAKE AND ITS SURROUNDING AREA. THE ASSOCIATION IS VIGOROUSLY SUPPORTED BY OTHER CONSERVATION GROUPS NAMELY: THE NATIONAL WILDLIFE FEDERATION, ILLINOIS WILDLIFE FEDERATION, GREAT LAKES CHAPTER SIERRA CLUB, MIGRATORY WATERFOWL, INC., EAGLE VALLEY ENVIRONMENTALISTS, DUCK AND GOOSE HUNTERS ALLIANCE, ILLINOIS RIVER VALLEY RESIDENTS ASSOCIATION, TRI-COUNTY REGIONAL PLANNING COMMISSION, AUDUBON COUNCIL OF ILLINOIS, ILLINOIS AUDUBON SOCIETY, PEKIN PARK DISTRICT, CITIZENS FOR THE PRESERVATION OF KNOX COUNTY, BALD EAGLE RESEARCH, GREEN PEACE AND DEFENDERS OF WILDLIFE.

THE ASSOCIATION PURSUES ITS GOALS OF PROTECTION AND PRESERVATION OF THE RICE LAKE CONSERVATION AREA BY DEVOTING MANY VOLUNTEER MAN-HOURS TO THE REHABILITATION AND ENHANCEMENT OF THE AREA PROPER AND BY INTERACTING WITH OTHER ORGANIZATIONS DEDICATED TO THE SAME GOALS OF PROTECTION OF THE NATURAL ENVIRONMENT. THE ASSOCIATION HAS CONDUCTED EXTENSIVE RESEARCH, PARTICIPATED IN NUMEROUS MEETINGS, LEGISLATIVE AND ADMINISTRATIVE HEARINGS AND HAS ENGAGED IN MANY EFFORTS TO AFFECT THE DEVELOPMENT OF CONSERVATION POLICIES IN ITS LOCALE.

7. THIS ORGANIZATION AND ITS MEMBERS WILL BE ADVERSELY AFFECTED BY THE ENVIRONMENTAL CONSEQUENCES OF SURFACE MINING THE RICE LAKE CONSERVATION AREA FOR COAL. THUS, THEY HAVE A SUBSTANTIAL INTEREST IN SEEKING AN UNSUITABILITY DESIGNATION FOR THIS FRAGILE, HISTORIC AND SCENIC LAND. PETITIONERS BELIEVE THAT THEY AS WELL AS OTHER PUBLIC WILL BE ADVERSELY AFFECTED IF SURFACE MINING



COMMENCES IN THE RICE LAKE CONSERVATION AREA BECAUSE THE CONSERVATION AREA IS IN REALITY A PUBLICLY OWNED WILDLIFE REFUGE AND CONSERVATION AREA PURCHASED AND MAINTAINED WITH FEDERAL PITTMAN-ROBERTSON FUNDS. THE OPERATION WOULD DEPRIVE ALL CITIZENS OF THIS STATE OF THE USE OF A VALUABLE LAND AND WATER AREA BELONGING TO THEM.

CLEARLY THE INTENT OF CONGRESS WAS TO INCLUDE IN PUBLIC LAW 95 - 87 PROTECTION OF PUBLICLY OWNED WILDLIFE REFUGE AND CONSERVATION AREAS BY PROHIBITING SURFACE COAL MINING OPERATIONS IN THEM.

SOME OF THE PRESENT RECREATIONAL AND AESTHETIC USES THAT WILL BE ADVERSELY AFFECTED ARE:

- A. FISHING
- B. DUCK AND GOOSE HUNTING
- C. HIKING
- D. CANOEING
- E. TENT AND TRAILER CAMPING
- F. BIRD STUDY
- G. PLANT STUDY AND COLLECTION
- H. WILDLIFE STUDY
- I. WILDLIFE PHOTOGRAPHY AND PAINTING
- J. SPORT, NATURE AND SOCIAL CLUB MEETINGS

SINCE THE RICE LAKE CONSERVATION AREA WAS PURCHASED AND IS MAINTAINED WITH FEDERAL PITTMAN-ROBERTSON FUNDS, LEASING THE MINERAL RIGHTS FOR SURFACE COAL MINING OPERATIONS IN THE CONSERVATION AREA WOULD CONSTITUTE A DIVERSION OF FUNDS. LOSS OF THE AREA AS A WILDLIFE PRESERVATION AREA WOULD REQUIRE THAT A PROPERTY OF EQUAL VALUE AT CURRENT MARKET PRICES WITH COMMENSURATE BENEFITS TO FISH AND WILDLIFE BE ACQUIRED TO REPLACE IT.

THE SAVE THE RICE LAKE AREA ASSOCIATION, INC., CONTENDS THAT RICE LAKE AND THE SURROUNDING AREA CAN IN NO WAY BE REPLACED WITH AN AREA OF COMPARABLE VALUE.

MEMBERS OF THE PETITIONER ORGANIZATION WHO RESIDE IN THE AFFECTED AND ADJACENT AREAS, AS WELL AS THOSE WHO WILL BE VISITORS TO THIS AREA, ARE THREATENED BY DIMINISHED AND POLLUTED GROUNDWATER SUPPLIES,



BY A REDUCTION OF VISIBILITY AND AN IMPAIRMENT OF AIR QUALITY, BY THE LOSS OF RECREATIONAL OPPORTUNITIES AND BY DAMAGES TO AESTHETIC QUALITIES FROM SURFACE COAL MINING OPERATIONS, ASSOCIATED ACTIVITIES AND FACILITIES.

MEMBERS OF THE PETITIONER ORGANIZATION AND AFFILIATES WHO ARE VITALLY CONCERNED WITH PROCESSES NECESSARY TO PROTECT ARCHEOLOGICAL SITES ON LANDS THREATENED BY MINING ACTIVITIES ARE ALARMED BY THE RAPID RATE THAT SITES ARE BEING DESTROYED IN ILLINOIS BY INCREASED COAL MINING ACTIVITIES AND, THEREFORE, PROTEST ANY PLANS TO SURFACE MINE THE AREA BEFORE ARCHAEOLOGICAL SURVEYS CAN BE ARRANGED TO ADEQUATELY INSPECT, EVALUATE AND RECORD THE KNOWN SITES.

SOME OF THE EARLY HISTORIC SITES DATING FROM PIONEER TIMES IN BANNER TOWNSHIP ARE STILL VISIBLE IN AREAS THAT WOULD BE DESTROYED BY CONSTRUCTION OF A LEVEE RAISED TO FACILITATE SURFACE COAL MINING THE RICE LAKE CONSERVATION AREA.

MEMBERS OF THE PETITIONER ORGANIZATION AND AFFILIATES ARE MUCH CONCERNED THAT SURFACE MINING THE CONSERVATION AREA WOULD DESTROY THE VALUABLE WETLAND HABITAT AT RICE LAKE THAT ABOUNDS WITH MANY AND VARIED FORMS OF WILDLIFE, SEVERAL OF WHICH ARE LISTED ON THE STATE AND NATIONAL ENDANGERED SPECIES LISTS. IF GROUNDWATER IS WITHDRAWN FROM THE RICE LAKE AREA THE ADVERSE IMPACT ON WILDLIFE WOULD BE LONG-TERM AND IRREVERSIBLE.

8. ASSOCIATION MEMBERS KEN GRIGSBY, LEVERN YESKE, JOHN R. GRIGSBY, SR., AND KEITH FULLER OWN REAL PROPERTY DIRECTLY ADJACENT TO THE RICE LAKE CONSERVATION AREA PREVIOUSLY CONSIDERED FOR PERMITTING SURFACE COAL MINING WOULD ADVERSELY AFFECT THE HEALTH, ECONOMIC, RECREATIONAL, AESTHETIC AND ENVIRONMENTAL INTERESTS OF THESE PETITIONERS. THEY DEPEND ON LOCAL SURFACE WATER AND GROUNDWATER FOR DOMESTIC AND AGRICULTURAL USES AND ARE PARTICULARLY CONCERNED ABOUT THE DIMINUTION OF WATER SUPPLY AND DEGRADATION OF WATER QUALITY.

THEY ARE MUCH CONCERNED WITH LOSS OF PROPERTY VALUES THAT WOULD ENSUE IF SURFACE COAL MINING OPERATIONS WERE TO BE PERMITTED FOR THE AREA.

THE IMPACTS OF PLANNED COAL-HAULING TRAFFIC WOULD OVERWHELM USAGE OF ROUTES 24 AND 9 (ALREADY IN DEPLORABLE CONDITION) AND CAUSE A COMPLETE BREAKDOWN OF ROADS SERVING THE AFFECTED AREA. PRESENT UNSTABLE ECONOMIC CONDITIONS ARE CAUSING HARDSHIPS WHERE LOCAL COUNTY GOVERNMENTS TRY TO COPE WITH THE NEED FOR ROAD REPAIRS AND ADDITIONAL SERVICES. FULTON COUNTY IS NO EXCEPTION DUE TO LOSSES ITS TAX BASE SUFFERED WHEN NEW STATE LAWS MANDATED TAX RATES BASED UPON LAND PRODUCTIVITY. TAX REVENUE FROM CROPLAND ASSESSMENTS HAS STEADILY DECLINED IN THIS COUNTY. MORE AND MORE LAND IS DEVALUATED AS SURFACE MINING FOR COAL CONTINUES.

THE PETITIONERS PARTICULAR LIFE-STYLES AS AVID HUNTERS AND FISHERMEN AND WILDLIFE ENTHUSIASTS WOULD BE THWARTED IF SURFACE MINING FOR COAL WAS PERMITTED IN THE RICE LAKE CONSERVATION AREA.

THE PETITIONERS LIVELIHOODS AND THOSE OF OTHER RICE LAKE AREA RESIDENTS ARE NOT DEPENDENT UPON AN INCOME TO BE DERIVED FROM SURFACE MINING RICE LAKE. STATE REVENUE IS GENERATED FROM TOURISTS VISITING THIS AREA THE YEAR AROUND. AN EVALUATION OF THE ENVIRONMENTAL RESOURCE OF RICE LAKE AND THE ANNUAL RETURNS REALIZED FROM WATERFOWL HUNTING AND FISHING (SPORT AND COMMERCIAL) AND TRAPPING INDICATES THAT ECONOMIC BENEFITS ARE REALIZED CONSISTANTLY.

THE AFFECTED AREA COULD NOT BE RECLAIMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ACT AFTER SURFACE COAL MINING OPERATIONS.

9. AN AREA MUST BE DESIGNATED AS UNSUITABLE FOR SURFACE COAL MINING OPERATIONS IF RECLAMATION IN ACCORDANCE WITH THE REQUIREMENTS OF THE ACT "IS NOT TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE".

30 USC §1272(A)(2)

30 CFR §762.11(A)

THE RECLAMATION REQUIREMENTS OF THE ACT AND ITS REGULATIONS INCLUDE A SYSTEMATIC AND COMPREHENSIVE REGULATORY SCHEME DESIGNED TO PROTECT THE HYDROLOGIC BALANCE AND WATER QUALITY AND QUANTITY IN SURFACE WATER AND GROUNDWATER SYSTEMS IN BOTH THE AFFECTED AND ADJACENT AREAS. THESE REQUIREMENTS INCLUDE, INTER ALIA, RESTORATION OF THE "RECHARGE CAPACITY OF THE MINED AREA TO APPROXIMATE PREMINING CONDITIONS."



30 USC §1265(b)(10)(d)

30 CFR §816.51

AND PRESERVATION "THROUGHOUT THE MINING AND RECLAMATION PROCESS OF THE ESSENTIAL HYDROLOGIC FUNCTIONS OF THE NATURAL SYSTEM OF WETLANDS."

30 USC §1272(a)(3)(B)

30 CFR §822.11, 822.12

THE ESSENTIAL HYDROLOGIC FUNCTIONS OF NATURAL WETLAND AREAS IS TO SERVE AS A WATER STORAGE AREA WHEN THE MAIN STEM OF THE SYSTEM IS IN FLOOD, TO RECHARGE AQUIFERS AND TO FILTER SEDIMENT FROM SURFACE WATERS FLOWING INTO THEM.

THE ACT AND ITS REGULATIONS ALSO REQUIRE THAT ALL DISTURBED LANDS BE REVEGETATED BY ESTABLISHING "A DIVERSE, EFFECTIVE AND PERMANENT VEGETATIVE COVER" OF NATIVE SPECIES, OR OF SPECIES THAT SUPPORT AN APPROVED POSTMINING USE.

30 USC §1265(b)(19)

30 CFR §816.111

10. SURFACE COAL MINING OPERATIONS IN THE AFFECTED AREA WOULD IRREPARABLY HARM THE HYDROLOGIC BALANCE AND DIMINISH WATER QUALITY AND QUANTITY IN THE AFFECTED AND ADJACENT AREAS AND THE ESTABLISHMENT OF A SUITABLE VEGETATIVE COVER WOULD NOT BE POSSIBLE FOLLOWING ANY PROPOSED OPERATIONS.

11. THE HYDROLOGIC BALANCE OF THE AFFECTED AND ADJACENT AREAS INVOLVES, AMONG OTHER PROCESSES, THE CRITICAL AND COMPLEX RELATIONSHIP BETWEEN SURFACE WATER AND GROUNDWATER. THE AFFECTED AREA IS UNDERLAIN WITH A LOCALIZED SIZEABLE AQUIFER WHICH PROVIDES WATER FOR RECHARGING THE WILDLIFE HABITAT.

THE AQUIFER IS ALSO THE PRINCIPAL WATER SUPPLY FOR DOMESTIC AND AGRICULTURAL USE IN THIS AREA.

12. SURFACE COAL MINING OPERATIONS IN THE RICE LAKE AREA WOULD IRREPARABLY DAMAGE THE HYDROLOGICAL BALANCE OF THE AREA BY DESTROYING THE MAJOR AND OTHER LOCALIZED AQUIFERS AND PERMANENTLY ALTERING AQUIFER RECHARGE CAPACITY, STORAGE AND TRANSMISSIVITY.



DAMAGING THESE SQUIFERS WOULD DESTROY SPRINGS AND BOGS ESSENTIAL TO THE MAINTENANCE OF THE AREAS WILDLIFE RESOURCE. THE LOSS OF THESE SPRINGS AND BOGS COULD NOT BE MITIGATED.

13. SURFACE COAL MINING OPERATIONS WOULD ACCELERATE EROSION, INCREASE FLOOD FLOWS AND SIGNIFICANTLY INCREASE SEDIMENT LOADS CARRIED INTO STREAMS DRAINING THE AFFECTED MINE AREA. THIRTEEN UNNAMED TRIBUTARIES DRAIN INTO RICE LAKE. THIS PROBLEM WOULD BE EXACERBATED BY REVEGETATION FAILURE AND LONG TERM DECREASES IN PERMEABILITY OF RECONSTRUCTED SOIL PROFILES. INCREASED SEDIMENT LOADS WOULD CAUSE AGGRADATION OF THESE STREAM CHANNELS, ALTERING THEIR FLOW CHARACTERISTICS, INCREASING BANK EROSION AND DESTROYING VALUABLE WETLAND FUNCTIONS.

THE ALTERATION OF SURFACE FLOW AND AQUIFER RECHARGE AND STORAGE CAPABILITIES WOULD DAMAGE THE ESSENTIAL HYDROLOGIC FUNCTIONS THAT MAINTAIN THE WETLANDS. STREAMS, BOGS AND SPRINGS DRAIN INTO THE AQUIFERS IN THE RICE LAKE CONSERVATION AREA. DIGGING UP LAND THAT DRAINS INTO THESE AQUIFERS WILL PERMANENTLY ALTER THE NATURAL DRAINAGE PATTERN ESSENTIAL FOR MAINTENANCE OF THE WETLANDS.

14. THE RICE LAKE CONSERVATION AREA PRESENTLY IS CHARACTERIZED BY A DIVERSE VEGETATIVE COVER COMPOSED OF NATIVE PLANTS WHICH PROVIDE HABITAT AND AN IDEAL FEEDING GROUND FOR A VARIETY OF WILDLIFE INCLUDING ENDANGERED BIRD AND FISH SPECIES AS WELL AS VARIOUS IMPORTANT MAMMALS, AMPHIBIANS AND INSECTS.

THE PETITIONERS BELIEVE THAT THE AREAS ECOLOGICAL SYSTEM IS RELATIVELY FRAGILE AND THAT A RETURN TO A STEADY STATE FOLLOWING SURFACE COAL MINING OPERATIONS COULD TAKE HUNDREDS OF YEARS.

15. THE PETITIONERS ARE CONCERNED ABOUT AN OPERATORS ABILITY TO RESTORE THE PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE SOILS AND OVERBURDEN IN THE RICE LAKE CONSERVATION AREA AFTER STRIP MINING. IF RECLAMATION IS NOT CAREFULLY AND SCIENTIFICALLY PROGRAMMED, POOR SOIL RECONSTRUCTION WILL RESULT IN LOW INFILTRATION, INADEQUATE ROOT PENETRATION, POOR GAS EXCHANGE AND ACCELERATED EROSION. THESE FACTORS WOULD SIGNIFICANTLY IMPEDE OR PREVENT THE ESTABLISHMENT OF A SUITABLE VEGETATIVE COVER.

16. SURFACE COAL MINING OPERATIONS IN THE RICE LAKE CONSERVATION AREA WOULD DESTROY THE 1060 ACRES OF RICH BOTTOMLAND FOREST. WHERE GROVES OF HARDWOOD AND SOFTWOOD TREES NOW STAND AND HAVE STOOD FOR OVER A HUNDRED YEARS, THE LANDSCAPE WOULD LIKELY BE REPLACED BY SOME ADMIXTURE OF SHRUBS AND FORBS SLOW TO ROOT AND SPREAD. MORE LIKELY THE WETLANDS AND BOTTOMLANDS WOULD BE CONVERTED TO BARE ERODING AREAS. DESTRUCTION OF THE PRESENT FOREST COVER WOULD REDUCE WILDLIFE HABITAT, DAMAGE THE AESTHETIC AND RECREATIONAL VALUE OF THE AREA AND PERMANENTLY ALTER THE ECOSYSTEM.

SURFACE COAL MINING OPERATIONS IN THE RICE LAKE AREA WOULD SIGNIFICANTLY DAMAGE THE FRAGILE LANDS OF RICE LAKE

17. AN AREA MAY BE DESIGNATED AS UNSUITABLE FOR SURFACE COAL MINING OPERATIONS IF THOSE OPERATIONS WOULD RESULT IN SIGNIFICANT DAMAGE TO HISTORICAL, CULTURAL, SCIENTIFIC AND AESTHETIC VALUES AND NATURAL SYSTEMS OF FRAGILE LANDS.

30 USC §1272 (A)(3)(B)

FRAGILE LANDS ARE

----- GEOGRAPHIC AREAS CONTAINING NATURAL, ECOLOGIC, SCIENTIFIC OR AESTHETIC RESOURCES THAT COULD BE DAMAGED OR DESTROYED BY SURFACE COAL MINING OPERATIONS. EXAMPLES OF FRAGILE LANDS INCLUDE VALUABLE HABITATS FOR FISH AND WILDLIFE ----- ENVIRONMENTAL CORRIDORS CONTAINING A CONCENTRATION OF ECOLOGIC AND AESTHETIC FEATURES ----- AREAS OF RECREATIONAL VALUE DUE TO HIGH ENVIRONMENTAL QUALITY ----- WHERE SURFACE COAL MINING OPERATIONS ARE PROHIBITED -----

30 CFR §762.5

18. SURFACE COAL MINING OPERATIONS IN THE RICE LAKE CONSERVATION AREA WOULD THREATEN THE FRAGILE AND UNIQUE LANDS ADVERSELY BY REMOVING APPROXIMATELY 4500 ACRES FROM THE FEDERAL FLOOD PLAIN. HOMES AND BUSINESSES UP AND DOWN THE ILLINOIS RIVER WOULD BE THREATENED BY INCREASED ELEVATED FLOOD LEVELS. ACCORDING TO A 1982 STUDY ON THE PROPOSED RICE LAKE LEVEE, THE MAXIMUM INCREASE IN SURFACE ELEVATION WOULD BE 0.14 FT. WHERE THE STATUTORY LIMIT



IS 0.1 FT. LEVEEING RICE LAKE TO MAKE IT SAFE FOR SURFACE COAL MINING WOULD VIOLATE THE FEDERAL FLOOD PLAIN MANAGEMENT AND PROTECTION OF WETLANDS ACT MANAGED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

44 CFR §9.2(a)(6)(7)(8)(9)(10) ET SEQ.

THE OPERATOR WOULD BE IN VIOLATION OF THE FULTON COUNTY FLOOD PLAIN ZONING RESOLUTION AND ORDINANCE SECTIONS 1, 3, 5, 13 ADOPTED JULY 10, 1979, WHICH REGULATES DEVELOPMENT IN RELATION TO FLOOD HAZARD AREAS.

SHOULD THE FLOW OF CERTAIN STREAMS DRAINING INTO THE RICE LAKE CONSERVATION AREA BE IMPEDED OR ALTERED BY SURFACE COAL MINING OPERATIONS, ADJACENT LANDOWNERS COULD ENVOKE ILLINOIS WATER RIPARIAN RIGHTS IF THOSE RIGHTS WERE VIOLATED.

IRS CHPT. 19 - §55

IF THE FRAGILE AND UNIQUE LANDS OF THE RICE LAKE CONSERVATION AREA WERE ADVERSELY IMPACTED OR DESTROYED COMPLETELY, THE EDUCATIONAL, AESTHETIC AND RECREATIONAL EXPERIENCES OF THOSE LIVING NEAR THE AREA AND THOSE VISITING OR WORKING IN THE AREA WOULD BE DIMINISHED.

19. THE VISTAS FROM THE BLUFFS IN THE RICE LAKE CONSERVATION AREA ARE IMPORTANT AESTHETIC RESOURCES OF THE FOREST LAND AND THE BOTTOMLANDS OF THE AREA. DESTROYING SO IMPORTANT A SOCIAL PLEASURE IS NOT IN THE PUBLIC INTEREST BECAUSE THE PUBLIC HAS NEED OF SERENE PLACES IN WHICH TO STABILIZE EMOTIONAL WELL-BEING.

20. SURFACE COAL MINING OPERATIONS WOULD DISRUPT THE AREAS NATURAL SYSTEMS IF NON-NATIVE SPECIES WERE USED IN REVEGETATION EFFORTS ALTERING THE NATURAL CHARACTER OF PLANT COMMUNITIES AT RICE LAKE.

21. SURFACE COAL MINING OPERATIONS IN THE RICE LAKE CONSERVATION AREA WOULD MOST CERTAINLY DESTROY A SCIENTIFIC OPPORTUNITY OFFERED AT RICE LAKE WHERE AVAILABLE DATA INDICATES THAT SOME OF THE ARCHEOLOGICAL SITES PROBABLY DATE BACK TO THE PALEO EPOCH AND WOULD BE OF NATIONAL REGISTER SIGNIFICANCE.

30 USC §1272 (A) (3) (B)



OTHER LOSSES TO THE SCIENTIFIC COMMUNITY WOULD BE IN THE FIELDS OF ORNITHOLOGY AND TAXONOMIC CLASSIFICATION. STUDENTS AND AVIAN RESEARCH EXPERTS HAVE CONFIRMED THAT CERTAIN ENDANGERED FEDERALLY PROTECTED SPECIES USE THE RICE LAKE AREA TO RAISE THEIR YOUNG. GOOD COVER EXISTS AT RICE LAKE IN PROXIMITY TO GOOD FEEDING AREAS WHICH CREATES IDEAL CONDITIONS FOR FISH-EATING AND RARE BIRDS AND OTHER FORMS OF WILDLIFE.

SEVERAL SPECIES OF PLANTS WHICH ARE ON THE STATE ENDANGERED LIST HAVE BEEN SIGHTED AT RICE LAKE. SOME OF THOSE RECOGNIZED IN THE AREA REQUIRE A MOIST SOIL OR WET WOOD HABITAT.

THE PETITIONERS DO NOT BELIEVE THAT COAL MINING COMPANIES POSSESS THE TECHNOLOGY NECESSARY TO RESTORE THE RICE LAKE CONSERVATION AREA TO ITS ORIGINAL NATIVE STATE. THE PETITIONERS HAVE SEEN NO EXAMPLES OF THE ABILITY TO DO SO AND FORESEE NO ACQUISITION OF THIS KNOWLEDGE IN THE FUTURE, NEAR OR FAR.

SURFACE COAL MINING OPERATIONS WOULD RESULT IN A SUBSTANTIAL LOSS OR REDUCTION OF THE LONG-RANGE PRODUCTIVITY OF WATER SUPPLY IN THE RICE LAKE AND ADJACENT AREAS

22. AN AREA MAY BE DESIGNATED AS UNSUITABLE FOR SURFACE COAL MINING OPERATIONS IF THESE OPERATIONS COULD RESULT IN A SUBSTANTIAL LOSS OR REDUCTION OF LONG-RANGE PRODUCTIVITY OF WATER SUPPLY ON RENEWABLE RESOURCE LANDS.

30 USC §1272(A)(3)(C)

30 CFR §752.11(6)(3)

RENEWABLE RESOURCE LANDS INCLUDE . . . . . AQUIFERS AND AREAS FOR THE RECHARGE OF AQUIFERS AND OTHER UNDERGROUND WATERS . . .

30 CFR §701.5

WETLANDS ARE DEPENDENT ON HYDROLOGICAL FUNCTIONS SUPPLIED FROM SURFACE AND GROUNDWATER RESOURCES. WITHOUT THIS SUPPLY WETLANDS FAIL IN THEIR FUNCTIONS OF MAINTAINING WATER TABLE LEVELS, FILTERING SILT AND REMOVING TOXIC METALS, PHOSPHATES AND SULFATES FROM THE WATER.

RESIDENTS IN AND NEAR THE RICE LAKE CONSERVATION AREA DEPEND ON THE HYDROLOGICAL FUNCTIONS OF THE AREAS WETLANDS TO MAINTAIN A LONG-RANGE DOMESTIC AND AGRICULTURAL WATER SUPPLY.

CONCLUSION

WHEREFORE, THE PETITIONERS REQUEST THAT THE RICE LAKE CONSERVATION AREA BE DESIGNATED AS UNSUITABLE FOR SURFACE COAL MINING OPERATIONS.

John Grigsby  
JOHN GRIGSBY, PRESIDENT

SAVE RICE LAKE AREA ASSOCIATION  
ROUTE 3, CANTON, IL 61520

Richard P. Watson V. PRES.  
Kathleen L. Hale SEC.  
Lillian L. Hughes TREAS.  
OFFICERS AND MEMBERS

SUBSCRIBED AND SWORN TO before me  
this 4<sup>th</sup> day of October, 1982.

Harold A. [Signature]  
Notary Public

APPENDIX B

LEGAL ISSUES RAISED IN PETITION





## Appendix B

### LEGAL ISSUES RAISED IN PETITION

While it is beyond the scope of this land report to address the legal procedures required prior to mining, the petition raises questions about certain state and federal laws and their implications for mining Rice Lake. This appendix is offered as a brief overview of the laws in question, and not a legal opinion on the applicability of the laws on the Rice Lake area.

#### National Environmental Policy Act

The petition states:

"The designation of Lands Unsuitable for Surface Coal Mining is sought under the Surface Mining Control and Reclamation Act of 1977, ... and the National Environmental Policy Act of 1969, 42 USC §4321 et. seq., ("NEPA")."(page 2)

In general NEPA declares a national policy of protection of the environment and instructs the federal government to take environmental concerns into account in all federal actions and federal legislation. It also requires that environmental impact statements be prepared for proposed federal legislation and other major federal actions. It makes no statements regarding mining nor does it direct any state actions.

### Sport Fish and Wildlife Restoration Acts

The petition alleges that the mining of the Rice Lake Conservation Area would constitute a diversion of funds provided by the U.S. Department of the Interior through the "Federal Aid in Wildlife Restoration Act" (commonly known as the Pittman-Robertson Act). The Act was originally passed in 1937 with the purpose of providing funds to the states for wildlife restoration projects including the "selection, restoration, rehabilitation and improvement of areas of land or water adaptable as feeding, resting, or breeding places..." (Section 2-50 stat.917).

In addition to Pittman Robertson Funds, funds from the "Federal Aid in Sport Fish Restoration Act" (Dingell-Johnson Act) have been used to support the Rice Lake Conservation Area. This Act provides, through the Department of Interior, funds for "projects designed for the restoration and management of all species of fish which have material value in connection with sport or recreation in the marine and/or fresh waters of the United States..." (Section 2-64 Stat.430).

To date, almost \$1 million from these funds have been invested at the Rice Lake Conservation Area. The Illinois Department of Conservation has indicated that, indeed, the mining of Rice Lake would be considered a diversion of these federal funds under the federal regulations. However, in "Rice Lake Mining Issues" DOC states:



"Two options are available to the Department of Conservation to satisfy the declaration of a diversion:

1. Federal aid funds used for purposes or activities which are not a part of an approved project are replaced. This could include development as well as acquisition costs, or
2. Federal Aid financed real property which has passed from the control of the State Fish and Game Department is restored to that control, or a property of equal value at current market prices and with commensurate benefits to fish and wildlife is acquired with non-Federal Aid funds to replace it."

According to the issue paper cited, DOC believes they can meet the conditions of option 2 above.

#### Federal Flood Plain Management and Protection of Wetlands

The petition also alleges that "according to a 1982 study on the proposed Rice Lake Levee, the maximum increase in surface elevation would be 0.14 feet where the statutory limit is 0.1 feet. Leveeing Rice Lake to make it safe for surface coal mining would violate the Federal Floodplain Management and Protection of Wetlands Act managed by the Federal Emergency Management Agency." (petition page 15).

The issue raised here is in fact two separate issues since the Federal Floodplain Management and Protection of Wetlands Act does not address surface elevations at all. The statutory limits for surface elevation are found in the Illinois Department of Transportation (IDOT) "Rules for Construction in Rivers, Lakes and Streams" (see following section).

The "Federal Floodplain Management and Protection of Wetlands Act" cited in the petition is actually a set of federal regulations (44 CFR §9.2(A)(6)(7)(8)(9)(10) et. seq), authorized by a number of Executive Orders (11988, 11990 and 12127), the National Flood Insurance Act of 1968, the Flood Disaster Protection Act of 1973 and the National Environmental Policy Act of 1969. In essence, the regulations deal solely with the responsibilities of the Federal Emergency Management and Assistance Agency (FEMA) with regard to floodplain management and protection of wetlands. The Regulations state "The Agency (FEMA) shall take action to:

- (1) Avoid long and short-term adverse impacts associated with the occupancy and modification of floodplains and the destruction and modification of wetlands;
- (2) Avoid direct and indirect support of floodplain development and new construction in wetlands wherever there is a practicable alternative;
- (3) Reduce the risk of flood loss;

- (4) Promote the use of nonstructural flood protection methods to reduce the risk of flood loss;
- (5) Minimize the impact of floods on human health, safety and welfare;
- (6) Minimize the destruction, loss or degradation of wetlands;
- (7) Restore and preserve the natural and beneficial values served by floodplains;
- (8) Preserve and enhance the natural values of wetlands;
- (9) Involve the public throughout the floodplain management and wetlands protection decision-making process;
- (10) Adhere to the objectives of the Unified National Program for Floodplain Management; and
- (11) Improve and coordinate the Agency's plans, programs, functions and resources so that the Nation may attain the widest range of beneficial uses of the environment without degradation or risk to health and safety.

Overall, the regulations deal only with FEMA actions, responsibilities, and FEMA approved or managed projects.



## Rules for Construction in Rivers, Lakes and Streams

The IDOT "Rules for Construction in Rivers, Lakes and Streams" are authorized by the Regulation of Rivers, Lakes and Streams Act (Chapter 19, Sections 65-78). While the Rules have never been formally adopted, they are used by IDOT as guidelines for the permitting of levees and other construction. The rules state:

### "Section 700.010 PURPOSE

The purpose of these rules is to protect the public safety and welfare by preventing construction or other uses in or adjacent to rivers, lakes and streams which would:

- (a) Improperly encroach upon any public body of water or infringe upon any rights or interests of the People of the State in any public body of water;
- (b) Obstruct the navigability of any public body of water;
- (c) Result in flood damages or potential flood damages due to increases in flood heights or velocities, or changes in current or wave action; or
- (d) Result in unacceptable adverse impacts on the natural conditions of any river, lake or stream of the State."

Among other things, the rules specify that a permit from IDOT is required for construction in floodways or any public bodies of water. The Rules also specify that:

- i. New levees shall not be constructed such that for any frequency flood up to and including the one-hundred (100) year frequency flood;

- 1) The natural water surface profile is increased by 0.5 feet or more in rural areas or 0.1 foot or more in urban areas considering cumulative effects,\*
- 2) The downstream discharge rate is increased by ten percent (10%) or more considering cumulative effects, or
- 3) The average channel velocity is increased beyond the scour velocity of the predominant soil type at the project site considering cumulative effects. (If average channel velocity naturally exceeds the scour velocity of the predominant soil type, velocity increases shall be limited to ten percent [10%].)

Rules 1 and 2 above may be waived if "a permanent flood easement for the increased flood risk is given or obtained on all affected properties" or "if a permanent easement is given or obtained on all appropriate properties to effectively prevent adverse cumulative impacts which would otherwise result from additional development".

#### Fulton County Floodplain Zoning Resolution and Ordinance

With regard to county regulations, the petition alleges that the coal company which mines Rice Lake will be in violation of the Fulton County Floodplain Zoning Resolution and Ordinance, Sections 1,3,5 and 13. The purpose of this county ordinance is "to avoid the hazards to persons and damage to property

\* For the purposes of the IDOT Rules, urban areas are defined as:

"Areas of the State where urban development currently exists or is expected to occur within a ten-year period. In determining urban areas, the expertise of local officials, regional and local planning commissions, city and county planners, private development planners and others may be utilized."

Urban Development is defined as "Residential, commercial or industrial uses, excluding farm buildings."

resulting from flooding and to comply with the Rules and Regulations of the National Flood Insurance Program..." (Section 1). The ordinance is meant to regulate development within zones of Flood Hazard Boundry Maps as defined by the US Department of Housing and Urban Development, Federal Insurance Administration. It requires that a permit be received from the county Zoning Enforcement Officer prior to construction or development within these zones. The ordinance does not make any statements regarding areas where development cannot take place; it only defines those areas for which a permit must be received.



APPENDIX C

GEOLOGICAL DATA



Summary of borehole logs provided by Freeman United Coal Mining Company

Location*											Notes
Hole No.	Sec.	T., R.	Surface Elev. (ft)	Total Depth (ft)	Drift Thickness (ft)	Rock Thickness (ft)	Total Cover (ft)	Elev. of Bedrock (ft)	Elev. of Coal Top (ft)	No. 2 Coal Thickness (ft)	
F-1	23	6N, 5E	440	65	15	16	31	425	409	3.5	Drilled through 3' levee
2	23	6N, 5E	443	70	21	46	67	422	376	2.6	Drilled through 3' levee
3	23	6N, 5E	443	75	24	22	46	419	397	2.5	Drilled through 3' levee
4	23	6N, 5E	440	70	14	18	32	426	408	2.9	Drilled through 3' levee
5	22	6N, 5E	440	65	18	9	27	423	413	2.5	Drilled through 3' levee
6	22	6N, 5E	440	95	17	-	-	423	-	-	No coal
8	21	6N, 5E	490	80	17	28	45	473	445	1.6	
9	28	6N, 5E	445	100	14	-	-	431	-	-	No coal
10	22	6N, 5E	438	40	15	16	31	423	407	1.0	Wiley Coal; No. 2 absent
12	28	6N, 5E	439	40	16	1	17	423	422	2.3	
13	33	6N, 5E	438	60	27	0	27	411	411	2.2	
14	32	6N, 5E	465	45	21	1	22	444	443	2.6	
16	4	5N, 5E	439	70	8	30	38	431	401	0.5	Wiley Coal; No. 2 absent
17	5	5N, 5E	442	70	16	13	29	426	413	0.8	Wiley Coal; No. 2 absent
18	33	6N, 5E	439	50	21	0	21	412	412	2.0	
19	28	6N, 5E	439	45	11	6	17	428	422	3.2	
21	27	6N, 5E	438	20	15	0	15	423	423	2.4	
22	21	6N, 5E	482	35	10	20	30	472	452	1.5	
23	28	6N, 5E	445	55	12	9	21	433	424	1.9	
24	21	6N, 5E	441	100	21	-	-	420	-	-	No coal
25	22	6N, 5E	439	70	14	14	28	425	411	1.8	



Location*											
Hole No.	Sec.	T., R.	Surface Elev. (ft)	Total Depth (ft)	Drift Thickness (ft)	Rock Thickness (ft)	Total Cover (ft)	Elev. of Bedrock (ft)	Elev. of Coal Top (ft)	No. 2 Coal Thickness (ft)	Notes
26	27	6N, 5E	439	30	9	7	16	430	423	2.6	No coal
29	22	6N, 5E	434	33	21	-	-	413	-	-	No coal
30	22	6N, 5E	433	34	10	-	-	423	-	-	No coal
31	22	6N, 5E	433	35	7	-	-	426	-	-	No coal
32	28	6N, 5E	433	35	16	6	22	417	411	1.0	Wiley Coal; No. 2 absent
37	33	6N, 5E	433	40	22	6	28	411	405	2.0	
40	33	6N, 5E	434	30	16	5	21	418	413	1.8	
41	33	6N, 5E	432	36	21	6	27	411	405	2.5	
43	33	6N, 5E	432	50	5	28	33	427	399	1.3	Wiley Coal; No. 2 absent

\*Locations are shown on Plate FII-1 (page III-19).

Summary of borehole logs from holes drilled by State Geological Survey

Hole No.	Location*		Surface Elev. (ft)	Total Depth (ft)	Drift Thickness (ft)	Elev. of Bedrock (ft)	Abridged Log (lithology, thickness)		Notes
	Sec.	T., R.							
I 3	33	6N, 5E	450	12.5	12.5	437	gl, 1.0/cos & g, 11.5/Oak Grove Limestone, cone-in-cone		Outcrop
IA2	33	6N, 5E	451	3.0	>3.0	-	sl, 2.0/gl, 1.0		
IA3	33	6N, 5E	450	5.0	4.6	445	1, 2.0/sl, 1.0/s, 0.6/cos, 1.0/shale, 0.4		Well installed
IA4	33	6N, 5E	446	3.5	>3.5	-	sl, 1.4/gl, 2.1		Well installed
IA5	33	6N, 5E	443	6.0	>6.0	-	sl, 1.5/l, 3.0/gl, 1.5		
IA6	33	6N, 5E	451	4.0	>4.0	-	sl, 1.5/l, 1.0/cos & g, 1.5		
IA7	33	6N, 5E	451	4.0	>4.0	-	sl, 2.0/cos & g, 2.0		Well installed
IA8	34	6N, 5E	452	3.5	3.0	449	1, 1.5/gl, 0.5/cos & g, 1.0/shale, 0.5		
IA9	34	6N, 5E	453	3.0	>3.0	-	1, 0.5/cl, 1.5/gl, 1.0		
IA10	34	6N, 5E	453	4.0	3.5	449	1, 1.0/cl, 1.0/gl, 1.5/shale, 0.5		
IIA1	21	6N, 5E	486	23.0	>23.0	-	sil, 1.0/sicl, 4.5/sil, 5.5/gl, 0.5/sil, 1.0/gl, 0.25/sil, 6.75/g, 0.5/sil, 3.0		
IIA2	21	6N, 5E	478	16.5	>16.5	-	sil, 1.5/sicl, 3.5/sil, 11.0/sl, 0.5		
IIA3	21	6N, 5E	452	12.2	>12.2	-	sil, 1.5/sicl, 3.0/sil, 5.5/g, 0.2/sil & sicl, 1.6/g, 0.4		
IIA4	21	6N, 5E	467	12.0	>12.0	-	sil, 2.0/sicl, 3.5/sil, 3.0/sl, 0.5/sil, 3.0		
IIA5	21	6N, 5E	442	18.5	>18.5	-	sil, 2.5/s, 0.25/sil, 4.0/sicl, 5.25/g, 0.2/sil, 3.8/sicl, 1.5/g, 1.0		
IIA6	21	6N, 5E	443	4.5	>4.5	-	sil, 2.0/s, 0.5/gl, 1.5/sl, 0.5		
III1	32	6N, 5E	-	-	>6.0	515	till, 5.0/s & g, 1.0/sandstone, 2.0/shale, 20.0		Outcrop
IIIA1	23	6N, 5E	440	18.6	>18.6	-	sil, 3.5/l, 1.5/sl, 1.0/sicl, 3.0/sil, 9.5/g, 0.1		
IIIA2	23	6N, 5E	440	17.5	>17.5	-	sil, 4.0/sl, 1.0/sil, 2.0/sil & sl, 4.5/sil, 6.0		
IIIA3	32	6N, 5E	442	14.0	13.0	429	sil, 9.0/sicl, 2.0/l, 0.2/sicl, 1.8/shale, 1.0		
IIIA4	32	6N, 5E	470	14.5	>14.5	-	sil, 3.0/sil & sl, 1.0/gl, 3.0/sil, 7.0/gl		
IIIA5	5	5N, 5E	445	16.5	16.0	429	sil, 1.8/s, 0.1/sil, 2.1/sil, 5.0/sicl, 4.5/sil, 1.0/sic, 1.0/gl, 0.5/g, 0.5/sandstone		

Hole No.	Location*		Surface Elev. (ft)	Total Depth (ft)	Drift Thickness (ft)	Elev. of Bedrock (ft)	Abridged Log (lithology, thickness)		Notes
	Sec.	T., R.							
IIIA6	4	5N, 5E	439	11.5	>11.5	-	sicl, 1.5/sil, 2.5/sicl, 6.5		
IVA1	27	6N, 5E	441	19.0	>19.0	-	1, 2.0/sil, 3.0/fs, 3.0/sil & sicl, 4.0/sil, 1.5/sil & sicl, 5.0/gl, 0.5		
IVA2	28	6N, 5E	441	16.5	16.0	425	sil, 3.5/fs, 1.0/sicl, 0.5/s, 0.5/sicl, 3.5/sil, 7.0/shale, 0.5		
IVA3	21	6N, 5E	470	9.5	9.5	460	sil, 4.0/sil & sl, 3.5/sil, 2.0/limestone		Well installed
IVA4	21	6N, 5E	459	10.5	>10.5	-	sil, 10.5		Well installed
IVA5	21	6N, 5E	452	7.5	>7.5	-	sil, 7.5		Well installed
IVA6	21	6N, 5E	455	10.0	>10.0	-	no log recorded		
VIA1	10	6N, 5E	490	21.5	>21.5	-	sil, 10.0/fs, 0.2/sil, 3.3/sil w/cos, 1.5/sil, 6.5		
VIIA1	27	6N, 5E	452	7.0	6.5	445	1, 1.5/sil, 2.0/gsl, 0.5/s & g, 1.5/shale, 0.5		
VIIA2	27	6N, 5E	452	5.5	5.0	447	sicl, 2.0/sil, 1.5/s & g, 1.5/shale, 0.5		
VIIA3	27	6N, 5E	461	5.0	>5.0	-	sl, 3.5/g, 1.5		
VIIA4	27	6N, 5E	453	5.5	>5.5	-	sl, 3.0/s & g, 2.5		
VIIA5	27	6N, 5E	453	6.0	>6.0	-	sl, 1.5/gl, 2.0/g, 2.5		
VIIA6	27	6N, 5E	453	4.0	>4.0	-	sil, 2.0/sil, 1.5/s & g, 0.5		
VIIA7	34	6N, 5E	451	5.5	5.0	446	1, 1.0/s, 1.5/g, 2.5/shale, 0.5		

#### KEY TO ABBREVIATIONS

g = gravel, vcos = very coarse sand, cos = coarse sand, s = sand, fs = fine sand, vfs = very fine sand, lcos = loamy coarse sand, ls = loamy sand, lfs = loamy fine sand, sl = sandy loam, fsl = fine sandy loam, vsl = very fine sandy loam, gsl = gravelly sandy loam, l = loam, gl = gravelly loam, stl = stony loam, si = silt, sil = silt loam, cl = clay loam, sicl = silty clay loam, scl = sandy clay loam, stcl = stony clay loam, sic = silty clay, c = clay

\*Locations are shown on Plate III-1 (page III-19).



APPENDIX D

DESCRIPTION OF METHODS USED TO PREPARE PLATES III-1 THROUGH III-9



## APPENDIX D

### DESCRIPTION OF METHODS USED TO PREPARE PLATES III-1 THROUGH III-9

#### Plate

- III-1      Borehole and outcrop locations. Points shown on this map indicate the locations of data points compiled from existing sources or collected during original field study for this report. Existing data were compiled from (1) published reports (Wanless 1957), (2) borehole logs and other drilling information on file in the Geological Records Unit of the Illinois State Geological Survey (ISGS), (3) borehole logs provided by Freeman United Coal Mining Company, and (4) field studies of outcrops and boreholes drilled for this study. Summaries of borehole logs from Freeman United and from original field study are given in Appendix C. Data on file in the Geologic Records Unit of the ISGS are available for public inspection in Room 227, Natural Resources Building, 615 E. Peabody Drive, Champaign, IL 61820.
- III-2      Geologic map. The geologic map was prepared from information compiled from published and unpublished sources and from data gathered for this study. Published sources were Wanless (1957) and Willman (1973). Other sources included Mined-out Coal Area Map 11 available from the ISGS and work maps, field notes and open-file manuscripts available from the ISGS Map Library (Room 439, Natural Resources Building, 615 E. Peabody, Champaign, IL 61820). In addition, data were compiled from mine notes and maps available from the Coal Section, ISGS. Original field work for this report included the description of two outcrop sections and drilling, sampling and description of 36 auger borings. The data collected from these holes are summarized in Appendix C.
- III-3      Topography of the bedrock surface. Data points used for preparation of the bedrock topography map include many of the points shown on Plate III-1. Within the RLCA, the map is based largely on borehole records supplied by Freeman United, borings drilled for this study, and borehole logs on file in the Geologic Records Unit, ISGS.
- III-4      Rock thickness above the Colchester (No. 2) Coal Member. Data points for this map are based largely on an "overlay" construction technique. This method consists of (1) comparing (overlying) two maps which display different information, (2) interpolating values from the comparison, and (3) plotting these values on a third map utilizing an orderly grid system.
- To prepare the rock thickness map, a comparison was made of the bedrock topography (Plate III-3) and coal structure (Plate III-7) maps. The bedrock topography map shows elevation of the bedrock surface, and the coal structure map displays the elevation of the top of the No. 2 coal. The values used for the rock thickness map



## Plate

were compiled by subtracting the elevation of the coal seam from the elevation of the top of the bedrock surface. Sixteen values per section were selected from a grid to construct the rock thickness map.

To assure accuracy, these data were supplemented with borehole information supplied by Freeman United and other drilling logs on file in the Geological Records Unit, ISGS. These borehole data points are shown on Plate III-1.

- III-5      Thickness of Quaternary deposits. This map was also prepared utilizing the "overlay" technique described for Plate III-4. The maps used for comparison were the Duck Island and Banner 7-1/2' topographic maps and the bedrock topography map (Plate III-3). The values used to construct the thickness of Quaternary deposits map were compiled by subtracting bedrock topography elevations from surface topography elevations. To assure accuracy these data were supplemented with borehole information from (1) Freeman United borings, (2) auger borings drilled for this study, and (3) other drill logs on file in the Geologic Records Unit, ISGS. These borehole data points are shown on Plate III-1.
- III-6      Thickness of the Henry Formation. This map was prepared by contouring well log measurements indicating sand and gravel thickness. The Henry Formation thickness measurements were taken from information supplied by (1) Freeman United borings, (2) auger borings drilled for this study, and (3) other drill logs on file in the Geologic Records Unit, ISGS. These borehole data points are shown on Plate III-1.
- III-7      Structure of the Colchester (No. 2) Coal Member. This map was constructed using well log information from Freeman United as well as other borehole logs on file in the Geologic Records Unit, ISGS. A No. 2 Coal structure map for the area near RLCA prepared by Wanless (1957) and several of Wanless' coal structure points were also used to construct this map. These data points are shown on Plate III-1.
- III-8      Mined-out coal areas. This map was prepared by enlarging ISGS Mined-out coal area map 11, which covers Fulton and parts of adjacent counties. Mined-out coal area map 11 shows the extent of surface-mined land as well as the extent or location of underground mines as of February 1981. The Duck Island and Banner 7-1/2' topographic quadrangles were used to adjust boundaries of surface mines from the area 11 map that did not agree with surface topography.
- III-9      Thickness of the Colchester (No. 2) Coal Member. This map was prepared by contouring well log measurements of No. 2 Coal thickness. These thickness measurements were taken from borehole information supplied by Freeman United as well as other drill logs on file in the Geologic Records Unit, ISGS. These borehole data points are shown on Plate III-1.

APPENDIX E

SOIL PROPERTIES OF THE RLCA SOILS





# Soil Properties of the RLCA Soils

Soil Series	Drainage Class	Depth (in)	Texture	Shrink-Swell	Organic Matter (%)	Permeability (in/hr)	Available Water (in/hr)	Bulk Density (g/cm <sup>3</sup> )	Liquid Limit	Plasticity Index	Clay %	Thickness (in)				Wind Erosion Group	Hydrologic Soil Group
												A	B	K	t		
Birds	poorly	0-6	sll	low	1-3	0.2-0.6	0.22-0.24	1.20-1.40	24-34	8-15	15-25	5.6-7.8	6	0	.43	5	C/D
		6-60	sll	low		0.2-0.6	0.20-0.22	1.40-1.60	24-34	8-15	18-27	5.1-7.8			.43		
Beaucoup	poorly v. poorly	0-15	sicl	moderate	5-6	0.2-0.6	0.21-0.23	1.25-1.45	30-45	15-25	27-35	5.6-7.8	15	33	.32	5	B/D
		15-35	sicl	moderate		0.2-0.6	0.18-0.20	1.30-1.50	30-45	15-30	27-35	5.6-7.8			.32		
		35-48	sicl	moderate		0.2-0.6	0.18-0.22	1.35-1.55	25-45	5-25	15-30	5.6-7.8			.32		
		48-60	sicl	moderate		0.2-0.6	0.18-0.22	1.40-1.65	20-40	5-20	10-30	6.1-8.4			.32		
Titus	poorly	0-14	sic	high	5-6	0.06-0.2	0.11-0.22	1.30-1.50	40-55	20-30	35-45	6.1-7.8	14	25	.32	4	B/D
		14-39	sic	high		0.06-0.2	0.11-0.22	1.30-1.50	40-55	20-30	35-45	6.1-7.8			.32		
		39-62	sicl	moderate		0.2-0.6	0.10-0.20	1.45-1.75	20-40	5-25	5-30	6.1-7.8			.32		
Wakeland	somewhat poorly	0-8	sll	low	1-3	0.6-2.0	0.22-0.24	1.30-1.50	27-36	4-10	10-17	5.6-7.3	8	0	.37	5	B/D
		8-60	sll	low		0.6-2.0	0.20-0.22	1.30-1.50	27-36	4-10	10-17	5.6-7.3			.37		
Wickory	well	0-16	sll	low	1-2	0.6-2.0	0.20-0.22	1.30-1.50	20-35	8-15	19-25	4.5-6.0	4	7	.37	5	C
		16-38	sicl	moderate		0.6-2.0	0.15-0.19	1.45-1.65	30-50	15-30	27-35	4.5-5.5			.37		
		38-72	l	low		0.6-2.0	0.11-0.19	1.50-1.70	20-40	3-20	15-32	5.1-6.4			.37		
Fayette	well	0-11	sll	low	1-2	0.6-2.0	0.20-0.22	1.30-1.35	25-35	5-15	15-25	5.1-7.3	348(E)	36	.37	5	B
		11-47	sll	moderate		0.6-2.0	0.18-0.20	1.30-1.45	35-45	15-25	25-35	4.5-6.0			.37		
		47-73	sll	moderate		0.6-2.0	0.18-0.20	1.45-1.50	30-40	10-20	22-26	5.1-7.8			.37		
Timula	well	0-60	sll	low	1-2	0.6-2.0	0.20-0.24	1.30-1.60	20-35	5-10	10-18	6.1-8.4	12	12	.37	5-4	B
Worthen	well	0-20	sll	low	3-4	0.6-2.0	0.22-0.24	1.20-1.40	25-40	7-21	15-22	6.1-7.3	20	17	.32	5-4	B
		20-60	sll	low		0.6-2.0	0.20-0.22	1.20-1.40	25-40	7-21	18-24	6.1-7.8			.43		
Orion	somewhat poorly	0-5	sll	low	1-3	0.6-2.0	0.22-0.24	1.20-1.30	20-30	4-10	10-18	5.6-7.8	5	0	.37	5	C
		5-21	sll	low		0.6-2.0	0.20-0.22	1.20-1.30	20-30	4-10	10-18	5.6-7.8			.37		
		21-42	sll	low		0.6-2.0	0.18-0.22	1.25-1.45	20-40	4-18	10-30	5.6-7.8			.37		
		42-60	sll	low		0.6-2.0	0.18-0.22	1.20-1.40	20-30	4-10	10-18	5.6-7.8			.37		
Rodman	excessively	0-7	gr-f	low	2-4	2.0-6.0	0.10-0.12	1.20-1.50	<30	3-9	8-25	6.6-7.8	7	6	.20	3	A
		7-13	gr-f	low		2.0-6.0	0.09-0.12	1.10-1.50	<30	np-10	5-25	6.6-7.8			.20		
		13-60	gr-cos	low		>20	0.02-0.04	1.80-2.00	-	np	0-10	7.4-8.4			.10		
Waymond	well	0-10	sll	low	1-3	0.6-2.0	0.22-0.24	1.30-1.45	27-36	4-10	10-18	5.6-7.3	10	34	.37	5	B
		10-44	sll	low		0.6-2.0	0.20-0.22	1.30-1.45	27-36	4-10	10-18	5.6-7.3			.37		
		44-60	fst	low		0.6-2.0	0.20-0.22	1.30-1.45	27-36	4-10	10-18	6.1-7.3			.37		



APPENDIX F

ANIMAL SPECIES AT THE RLCA





Appendix F. Animal species of known or potential occurrence at the Rice Lake Conservation Area, Fulton County, Illinois.

Common name <sup>1</sup>	Scientific name <sup>1</sup>	Status <sup>2</sup>	Relative Abundance <sup>3</sup>
MAMMALS:			
Opossum	<u>Didelphis marsupialis</u>		C
Eastern mole	<u>Scalopus aquaticus</u>		C
Short-tailed shrew	<u>Blarina brevicauda</u>		C
Least shrew	<u>Cryptotis parva</u>		U
Little brown bat	<u>Myotis lucifugus</u>		C
Keen's bat	<u>Myotis keenii</u>		C
Indiana bat	<u>Myotis sodalis</u>	FE	U
Silver-haired bat	<u>Lasionycteris noctivagans</u>		MC
Eastern pipistrelle	<u>Pipistrellus subflavus</u>		C
Big brown bat	<u>Eptesicus fuscus</u>		C
Hoary bat	<u>Lasiurus cinereus</u>		R
Red bat	<u>Lasiurus borealis</u>		C
Evening bat	<u>Nycticeius humeralis</u>		C(?)
Raccoon	<u>Procyon lotor</u>		C
Long-tailed weasel	<u>Mustela frenata</u>		C(?)
Mink	<u>Mustela vison</u>		MC
River otter	<u>Lutra canadensis</u>	ST	R
Striped skunk	<u>Mephitis mephitis</u>		MC
Badger	<u>Taxidea taxus</u>		U(?)
Red fox	<u>Vulpes fulva</u>		C
Gray fox	<u>Urocyon cinereoargenteus</u>		U
Coyote	<u>Canis latrans</u>		U
Bobcat	<u>Lynx rufus</u>	ST	R
Woodchuck	<u>Marmota monax</u>		C
Thirteen-lined ground squirrel	<u>Spermophilus tridecemlineatus</u>		A
Franklin's ground squirrel	<u>Spermophilus franklinii</u>		C
Eastern chipmunk	<u>Tamias striatus</u>		C
Fox squirrel	<u>Sciurus niger</u>		C
Southern flying squirrel	<u>Glaucomys volans</u>		C
Beaver	<u>Castor canadensis</u>		C
Western harvest mouse	<u>Reithrodontomys megalotis</u>		U
Deer mouse	<u>Peromyscus maniculatus</u>		A
White-footed mouse	<u>Peromyscus leucopus</u>		A
Meadow vole	<u>Microtus pennsylvanicus</u>		MC
Prairie vole	<u>Microtus ochrogaster</u>		A
Pine vole	<u>Microtus pinetorum</u>		R
Muskrat	<u>Ondatra zibethicus</u>		C
Norway rat	<u>Rattus norvegicus</u>		A
House mouse	<u>Mus musculus</u>		A
Meadow jumping mouse	<u>Zapus hudsonius</u>		U

Common name <sup>1</sup>	Scientific name <sup>1</sup>	Status <sup>2</sup>	Relative Abundance <sup>3</sup>
Eastern cottontail	<u>Sylvilagus floridanus</u>		C
White-tailed deer	<u>Odocoileus virginianus</u>		C
BIRDS: (endangered and threatened species only)			
Double crested cormorant	<u>Phalacrocorax auritus</u>	SE	UM
Common gallinule	<u>Gallinula chloropus</u>	ST	OM, OS
Snowy egret	<u>Egretta thula</u>	SE	RM
Great egret	<u>Casmerodius albus</u>	SE	CS
Little blue heron	<u>Florida caerulea</u>	SE	UM
Black-crowned night heron	<u>Nycticorax nycticorax</u>	SE	CM, US
American bittern	<u>Botaurus lentiginosus</u>	SE	UM, RS
Cooper's hawk	<u>Accipiter cooperii</u>	SE	UM, US, RS
Red-shouldered hawk	<u>Buteto lineatus</u>	SE	OM, OS, OW
Bald eagle	<u>Haliaeetus leucocephalus</u>	FE	CM, CW
Osprey	<u>Pandion haliaetus</u>	SE	UM
Marsh hawk	<u>Circus cyaneus</u>	SE	CM, CW, OS
Upland sandpiper	<u>Bartramia longicauda</u>	SE	UM, US
Wilson's phalarope	<u>Steganopus tricolor</u>	SE	UM
Forster's term	<u>Sterna forsteri</u>	SE	CM
Common tern	<u>Sterna hirundo</u>	SE	CM
Least tern	<u>Sterna albifrons</u>	SE	RS, RM
Black tern	<u>Childonia niger</u>	SE	CM, RS
Barn owl	<u>Tyto alba</u>	SE	RP
Long-eared owl	<u>Asio otus</u>	SE	UW, RS
Short-eared owl	<u>Asio flammeus</u>	SE	UM, US, RS
Brown creeper	<u>Certhia familiaris</u>	SE	CM, CW, OLS
Bewick's wren	<u>Thryomanes bewickii</u>	ST	UM, US, RW
Veery	<u>Catharus fuscescens</u>	ST	CM, RS
Loggerhead shrike	<u>Lanius ludovicianus</u>	ST	UM, OS, OW
Yellow-headed blackbird	<u>Xanthecephalus xanthocephalus</u>	SE	RM
Henslow's sparrow	<u>Ammodramus henslowii</u>	ST	OM, LS
REPTILES:			
Common snapping turtle	<u>Chelydra serpentina serpentina</u>		C
Stinkpot	<u>Sternotherus odoratus</u>		C
Blanding's turtle	<u>Emydoidea blandingi</u>		R
Ornate box turtle	<u>Terrapene ornata ornata</u>		C
Painted turtle	<u>Chrysemys picta marginata</u> x		C
	<u>C.P. belli intergrades</u>		
Red-eared turtle	<u>Pseudemys scripta elegans</u>		C
False map turtle	<u>Graptemys pseudogeographica</u>		C
Map turtle	<u>Graptemys geographica</u>		R
Smooth softshell	<u>Trionyx muticus muticus</u>		R (possibly extirpated, see Bellrose et al. 1977)



Common name <sup>1</sup>	Scientific name <sup>1</sup>	Status <sup>2</sup>	Relative Abundance <sup>3</sup>
Eastern spiny softshell	<u>Trionyx spinifer spinifer</u>		C
Western slender glass lizard	<u>Ophisaurus attenuatus</u>		R
Five-lined skink	<u>Eumeces fasciatus</u>		C
Eastern hognose snake	<u>Heterodon platyrhinos</u>		C
Western smooth green snake	<u>Opheodrys vernalis blanchardi</u>		R
Eastern yellow-bellied racer	<u>Coluber constrictor flaviventris</u>		C
Black rat snake	<u>Elaphe obsoleta obsoleta</u>		C
Western fox snake	<u>Elaphe vulpina vulpina</u>		C
Bullsnake	<u>Pituophis melanoleucas sayi</u>		C
Prairie kingsnake	<u>Lampropeltis calligaster</u>		C
Speckled kingsnake	<u>Lampropeltis getulus holbrooki</u>		R
Milk snake	<u>Lampropeltis triangulum</u> <u>triangulum x L.T. sypila</u> <u>intergrades</u>		R
Eastern plains garter snake	<u>Thamnophis radix radix</u>		C
Eastern garter snake	<u>Thamnophis sirtalis sirtalis</u>		C
Midland brown snake	<u>Storeria dekayi wrightorum</u>		C
Northern redbelly snake	<u>Storeria occipitomaculata occipitomaculata</u>		R
Yellow-bellied water snake	<u>Nerodia erythrogaster flavigaster</u>		R
Graham's crayfish snake	<u>Regina grahami</u>		C
Diamond-backed water snake	<u>Nerodia rhombifera rhombifera</u>		C
Queen snake	<u>regina septemvittata</u>		R
Northern water snake	<u>Nerodia sipedon sipedon</u>		C
Eastern massasauga	<u>Sistrurus catenatus catenatus</u>		R
Timber rattlesnake	<u>Crotalus horridus horridus</u>		R
AMPHIBIANS:			
Small mouth salamander	<u>Ambystoma texanum</u>		C
Eastern tiger salamander	<u>Ambystoma tigrinum tigrinum</u>		C
Mudpuppy	<u>Necturus maculosus maculosus</u>		C
Western lesser siren	<u>Siren intermedia nettingi</u>		C
American toad	<u>Bufo americanus americanus</u>		C
Fowler's toad	<u>Bufo woodhousei fowleri</u>		C
Blanchard's cricket frog	<u>Aeris crepitans blanchardi</u>		C

Common name <sup>1</sup>	Scientific name <sup>1</sup>	Status <sup>2</sup>	Relative Abundance <sup>3</sup>
Western chorus frog	<u>Pseudacris triseriata</u>		C
	<u>triseriata</u>		
Northern spring peeper	<u>Hyla crucifer crucifer</u>		R
Eastern gray treefrog	<u>Hyla versicolor versicolor</u>		C
Bullfrog	<u>Rana catesbeiana</u>		C
Green frog	<u>Rana clamitans melanota</u>		C
Leopard frog	<u>Rana pipiens pipiens x R.P.</u> <u>sphenoccephala intergrades</u>		C

#### FISHES:

Chestnut lamprey	<u>Ichthyomyzon castaneus</u>		U
Lake sturgeon	<u>Acipenser fulvescens</u>	ST	U
Shovelnose sturgeon	<u>Scaphirhynchus platyrhynchus</u>		U
Paddlefish	<u>Polyodon spathula</u>		U
Spotted gar	<u>Lepisosteus oculatus</u>		U
Longnose gar	<u>Lepisosteus osseus</u>		U
Shortnose gar	<u>Lepisosteus platostomus</u>		C
Bowfin	<u>Amia calva</u>		R
Skipjack herring	<u>Alosa chrysochloris</u>		U
Gizzard shad	<u>Dorosoma cepedianum</u>		A
Goldeye	<u>Hiodon alosoides</u>		U
Rainbow trout	<u>Salmo gairdneri</u>		R
Rainbow smelt	<u>Osmerus mordax</u>		R
Grass pickerel	<u>Esox americanus</u>		R
Northern pike	<u>Esox lucius</u>		R
Goldfish	<u>Carassius auratus</u>		U
Carp	<u>Cyprinus carpio</u>		C
Golden shiner	<u>Notemigonus crysolencas</u>		C
Creek chub	<u>Semotilus atromaculatus</u>		U
Hornyhead chub	<u>Nocomis biguttatus</u>		R
Speckled chub	<u>Hybopsis aestivalis</u>		U
Silver chub	<u>Hybopsis storeriana</u>		U
Blacknose dace	<u>Rhinichthys atratulus</u>		C
Suckermouth minnow	<u>Phenacobius mirabilis</u>		U
Emerald shiner	<u>Notropis atherinoides</u>		A
River shiner	<u>Notropis blennius</u>		U
Striped shiner	<u>Notropis chrysocephalus</u>		R
Bigmouth shiner	<u>Notropis dorsalis</u>		U
Pugnose minnow	<u>Notropis emiliae</u>		R
Spottail shiner	<u>Notropis hudsonius</u>		C
Red shiner	<u>Notropis lutrensis</u>		C
Silverband shiner	<u>Notropis shumardi</u>		R
Sand shiner	<u>Notropis stramineus</u>		U
Southern redbelly dace	<u>Phoxinus erythrogaster</u>		R
Silvery minnow	<u>Hybognathus nuchalis</u>		U
Bluntnose minnow	<u>Pimephales notatus</u>		C
Fathead minnow	<u>Pimephales promelus</u>		C
Bullhead minnow	<u>Pimephales vigilax</u>		C



Common name <sup>1</sup>	Scientific name <sup>1</sup>	Status <sup>2</sup>	Relative Abundance <sup>3</sup>
Common stoneroller	<u>Campostoma anomalum</u>		U
Blue sucker	<u>Cycleptus elongatus</u>		R
Smallmouth buffalo	<u>Ictiobus bubalus</u>		C
Bignmouth buffalo	<u>Ictiobus cyprinellus</u>		C
Black buffalo	<u>Ictiobus niger</u>		R
River carpsucker	<u>Carpionodes carpio</u>		C
Quillback	<u>Carpionodes cyprinus</u>		C
Highfin carpsucker	<u>Carpionodes velifer</u>		R
Golden redhorse	<u>Moxostoma erythrurum</u>		U
Shorthead redhorse	<u>Moxostoma macrolepidotum</u>		U
Northern hogsucker	<u>Hypentelium nigricans</u>		R
White sucker	<u>Catostomus commersoni</u>		U
Spotted sucker	<u>Minytrema melanops</u>		R
Lake chubsucker	<u>Erimyzon sucetta</u>		R
White catfish	<u>Ictalurus catus</u>		R
Black bullhead	<u>Ictalurus melas</u>		U
Yellow bullhead	<u>Ictalurus natalis</u>		U
Brown bullhead	<u>Ictalurus nebulosus</u>		R
Channel catfish	<u>Ictalurus punctatus</u>		U
Flathead catfish	<u>Pylodictis olivaris</u>		R
Tadpole madtom	<u>Noturus gyrinus</u>		R
Pirate perch	<u>Aphredoderus sayanus</u>		R
Trout-perch	<u>Percopsis omiscomaycus</u>		R
Burbot	<u>Lota lota</u>		R
Starhead topminnow	<u>Fundulus dispar</u>		U
Blackstripe topminnow	<u>Fundulus notatus</u>		R
Mosquitofish	<u>Gambusia affinis</u>		R
Brook silverside	<u>Labidesthes sicculus</u>		R
White bass	<u>Morone chrysops</u>		C
Yellow bass	<u>Morone mississippiensis</u>		R
Smallmouth bass	<u>Micropterus dolomieu</u>		R
Largemouth bass	<u>Micropterus salmoides</u>		C
Green sunfish	<u>Lepomis cyanellus</u>		C
Pumpkinseed	<u>Lepomis gibbosus</u>		R
Warmouth	<u>Lepomis gulosus</u>		R
Orangespotted sunfish	<u>Lepomis humilis</u>		R
Bluegill	<u>Lepomis macrochirus</u>		C
Redear sunfish	<u>Lepomis microlophus</u>		R
Spotted sunfish	<u>Lepomis punctatus</u>		R
Rock bass	<u>Ambloplites rupestris</u>		R
White crappie	<u>Pomoxis annularis</u>		C
Black crappie	<u>Pomoxis nigromaculatus</u>		C
Sauger	<u>Stizostedion canadense</u>		R
Walleye	<u>Stizostedion vitreum</u>		R
Yellow perch	<u>Perca flavescens</u>		R
Logperch	<u>Percina caprodes</u>		R
Blackside darter	<u>Percina maculata</u>		R
Slenderhead darter	<u>Percina phoxocephala</u>		R
River darter	<u>Percina shumardi</u>		R
Mud darter	<u>Etheostoma aspringene</u>		R



Common name <sup>1</sup>	Scientific name <sup>1</sup>	Status <sup>2</sup>	Relative Abundance <sup>3</sup>
Bluntnose darter	<u>Etheostoma chlorosomum</u>		R
Slough darter	<u>Etheostoma gracile</u>		R
Orangethroat darter	<u>Etheostoma spectabile</u>		R
Freshwater drum	<u>Aplodinotus grunniens</u>		C
MUSSELS:			
Mapleleaf	<u>Quadrula quadrula</u> (Rafinesque)		A
Threeridge	<u>Amblema plicata</u> (Say)		A
Giant floater	<u>Anodonta grandis</u> (Say)		C
Washboard	<u>Megaloniaias gigantea</u> (Barnes)		R
Fragile papershell	<u>Leptodea fragilis</u> (Rafinesque)		R
Rockshell	<u>Arcidens confragosus</u> (Say)		R
Pimpleback	<u>Quadrula pustulosa</u> (Lea)		R
Pink papershell	<u>Proptera</u> [ <u>Potamilus</u> , <u>Leptodea</u> ] <u>laevissima</u> (Lea)		R
Yellow sandshell	<u>Lampsilis teres</u> (Rafinesque)		R
Fat mucket	<u>Lampsilis radiata siliquoidea</u> (Barnes)		R
Paper floater	<u>Anodonta imbecillis</u> (Say)		R
Flat floater	<u>Anodonta suborbidulata</u> (Say)		R
Pink heelsplitter	<u>Proptera</u> [ <u>Potamilus</u> ] <u>alata</u> (Say)		R
Pigtoe	<u>Fusconaia flava</u> (Rafinesque)		R
White heelsplitter	<u>Lasmigona complanata</u> (Barnes)		R
Buckhorn	<u>Tritogonia verrucosa</u> (Rafinesque)		R
Threehorn	<u>Obliquaria reflexa</u> (Rafinesque)		R
Deertoe	<u>Truncilla truncata</u> (Rafinesque)		R
Wartyback	<u>Quadrula olivaria</u> (Rafinesque)		R
Fawnfoot	<u>Truncilla donaciformis</u> (Lea)		R
Lilliput	<u>Carunculina parra</u> (Barnes)		R
Ebony shell	<u>Fusconaia ebena</u> (Lea)		R
CLAMS:			
Fingernail clam	<u>Musculium transversum</u>		(see text)
Asiatic clam	<u>Corbicula manilensis</u>		(see text)
CRAYFISHES:			
	<u>Cambarus diogenes</u>		C
	<u>Fallicambarus fodiens</u>		R
	<u>Orconectes immunis</u>		A
	<u>Orconectes propinquus</u>		R
	<u>Orconectes rusticus</u>		R
	<u>Orconectes virilis</u>		A
	<u>Procambarus acutus</u>		C
	<u>Procambarus gracilis</u>		C

<sup>1</sup>Common and scientific names follow Hall (1981) for mammals, Bohlen (1978) for birds, Smith (1979) for fishes, Smith (1961), Morris et al. (1983) for reptiles and amphibians, Fuller (1980) for mussels, Parmalee (1967) for clams, and Hobbs (1974) for crayfishes.

<sup>2</sup>FE = federally endangered, FT = federally threatened, SE = state endangered, ST = state threatened; Source: Sheviak and Thom (1981).

<sup>3</sup>Mammals: A = abundant, C = common, MC = moderately common, U = uncommon, R = rare, in Central Illinois; after Hoffmeister and Mohr (1972).

Birds: C = common, U = uncommon, O = occasional, R = rare, L = local, M = migrant, S = summer resident, W = winter resident, P = permanent resident; in Central Illinois after Bohlen(1978).

Reptiles and Amphibians: C = common, R = rare state-wide; after Smith (1961).

Fishes: A = abundant, C = common, U = uncommon, R = rare in the LaGrange pool; after Lubinski et al. (1980).

Mussels: A = abundant, C = common, R = rare in the Illinois River; after Starrett (1971).

Crayfishes: A = abundant, C = common, R = rare in the Illinois River System; after L. M. Page, Illinois Natural History Survey, personal communication.





APPENDIX G

LETTER - INHS TO DOC



## State Natural History Survey Division

ENR



Natural Resources Building  
607 East Peabody Drive  
Champaign, IL 61820  
217/333-6880

River Research Lab  
Box 599  
Havana, IL 62644

Illinois Department of  
Energy and Natural Resources

11 April 1983

Allan S. Mickelson  
Illinois Department of Conservation  
Div. of Forest Resources & Natural Heritage  
600 N. Grand Ave., West  
Springfield, IL 62706

Dear Al:

On 14 and 18 March 1983, John and Lorraine Grigsby and Bob Williams from the Rice Lake Preservation Association brought me some mussel shells for identification. They had obtained the shells from muskrat or raccoon middens on the west shore of Miserable Island in Rice Lake.

The specimens included the flat floater, Anodonta suborbiculata (Say), the floater, Anodonta grandis (Say), and the pink papershell, Proptera [Leptodea] laevis (Lea). If exact identification of the mussels from Rice Lake is important, I would suggest that specimens of Proptera laevis be submitted to a malacologist because small specimens are difficult to distinguish from small fragile papershells, Leptodea fragilis (Rafinesque). Also, some taxonomists split the floaters into subspecies, Anodonta grandis grandis and Anodonta grandis corpulenta. I side with the taxonomists who consider them to be forms of the same species, Anodonta grandis.

None of these are rare or endangered species, and all of them are found in still or slow-moving water. In W.C. Starrett's 1966 survey of the Illinois River only one living specimen of Anodonta suborbiculata was taken, from Lake Matanzas, but this is not surprising because almost all of Starrett's collecting was done in the river proper, rather than in bottomland lakes. Earlier surveys had shown suborbiculata to be quite common in backwater areas. The periostraca of all the specimens I examined were quite fresh, indicating that the mussels had recently been taken alive, and this is good circumstantial evidence that there are one or more mussel beds in Rice Lake to the west of Miserable Island. Since raccoons and muskrats may be selective in the mussels they consume, it is likely that several other species of mussels occur in the bed in addition to the three species found in the middens.

If it is important to determine the size and composition of the mussel beds in Rice Lake, a survey could be conducted by a team wading and "pollywogging" through the area west of Miserable Island during low water levels in mid to late summer. The people from the Rice Lake Preservation Association would probably help conduct such a survey, if someone from the Department of Conservation or Illinois Natural History Survey were available.



Allan S. Mickelson  
11 April 1983  
Page 2

to help identify these specimens. I would suggest that most of the specimens be returned to the lake, with some placed as voucher specimens in the Illinois Natural History Survey mussel collection at Champaign.

Please let me know if I can supply any additional information.

Sincerely yours,

*Richard E. Sparks*

Richard E. Sparks

RES:va

cc: John and Lorraine Grigsby  
Bob Williams  
Carl Becker  
Don Webb  
Liane Suloway  
Warren Brigham

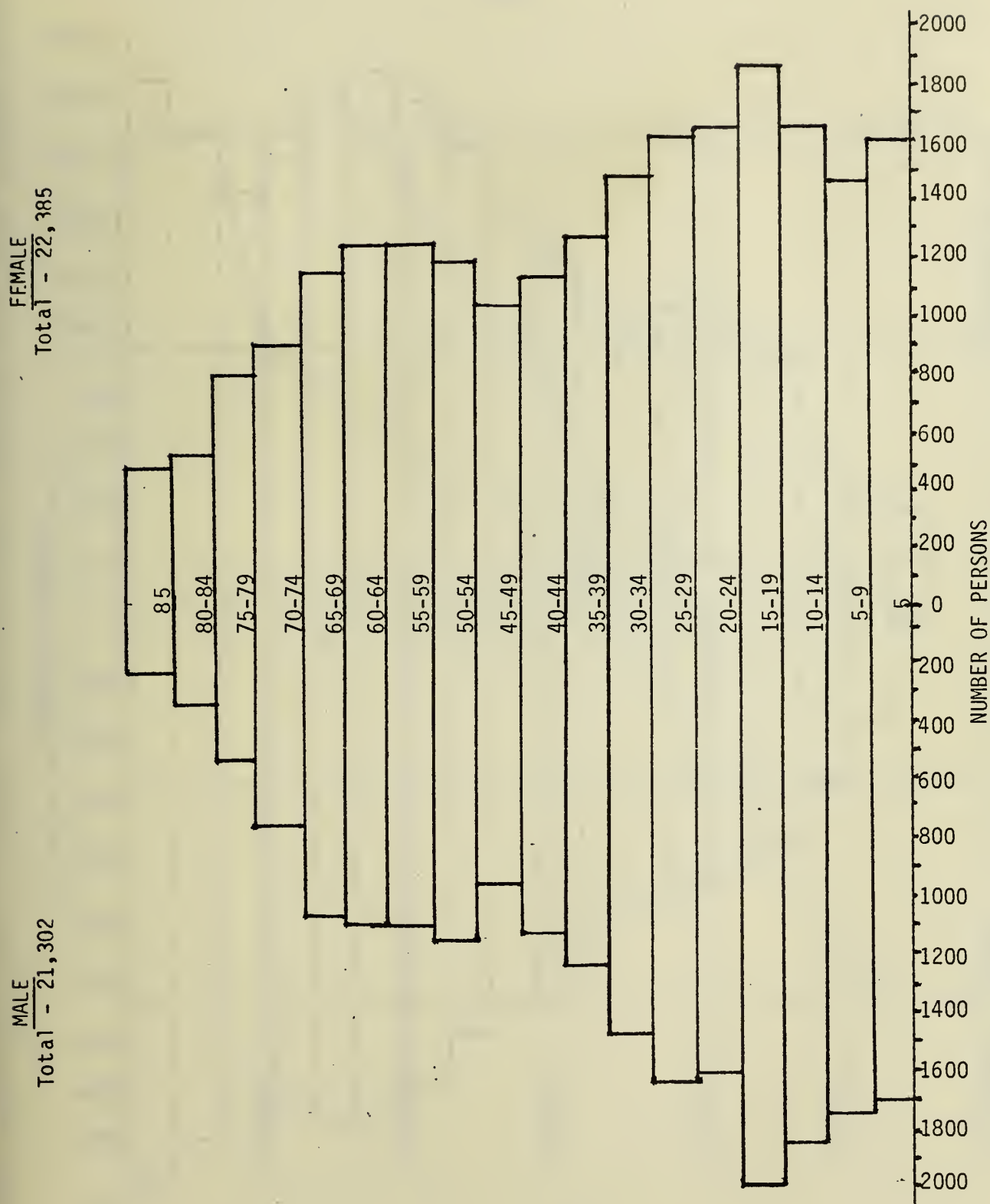
APPENDIX H

POPULATION OF FULTON COUNTY





POPULATION CHARACTERISTICS - 1980  
 - FULTON COUNTY -  
 Figure 1



SOURCE: 1980 Census of Population: Characteristics of the Population. Part 15 Illinois. U.S. Dept. of Commerce

POPULATION CHARACTERISTICS - 1990  
- FULTON COUNTY -\*

Figure 2

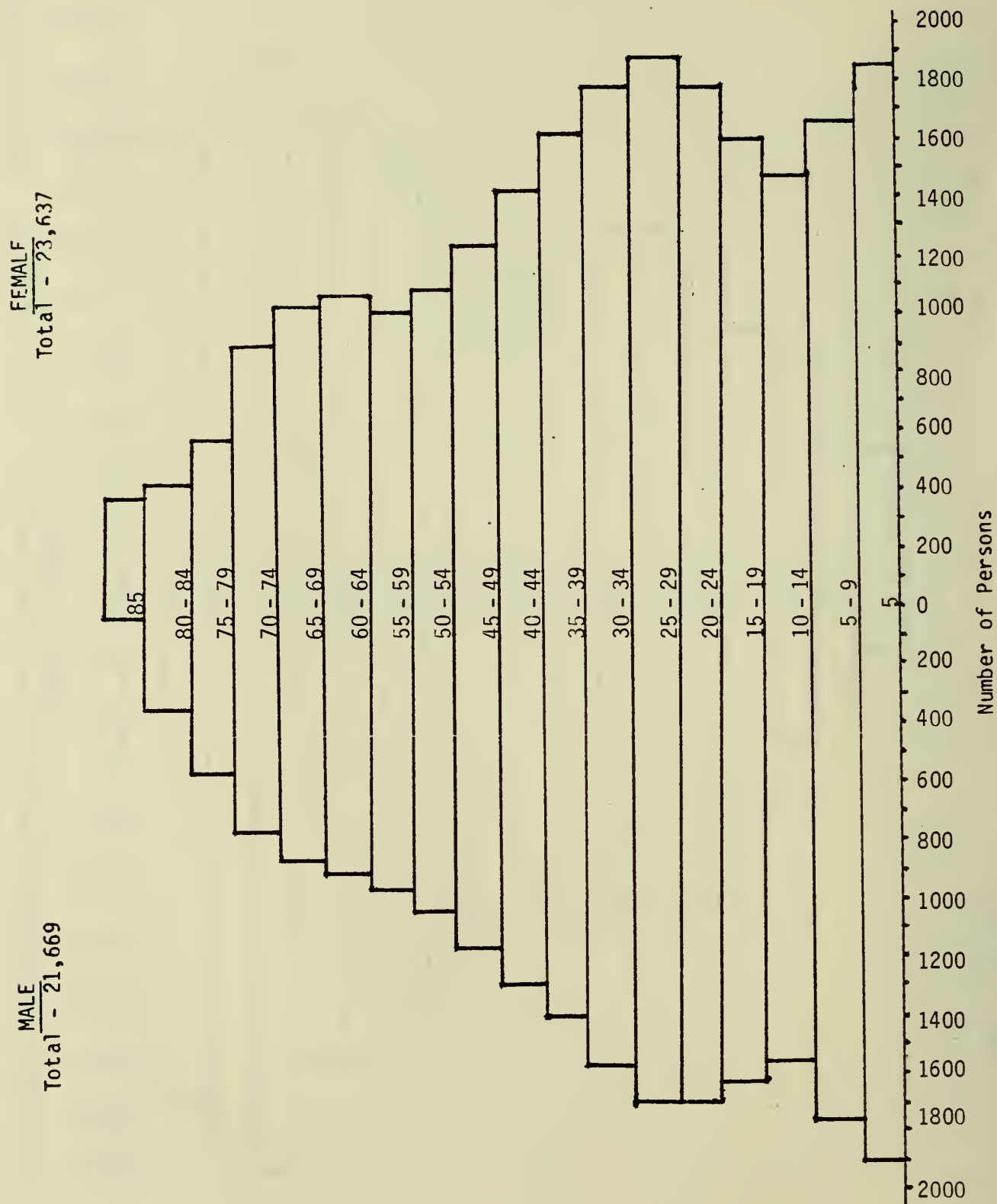
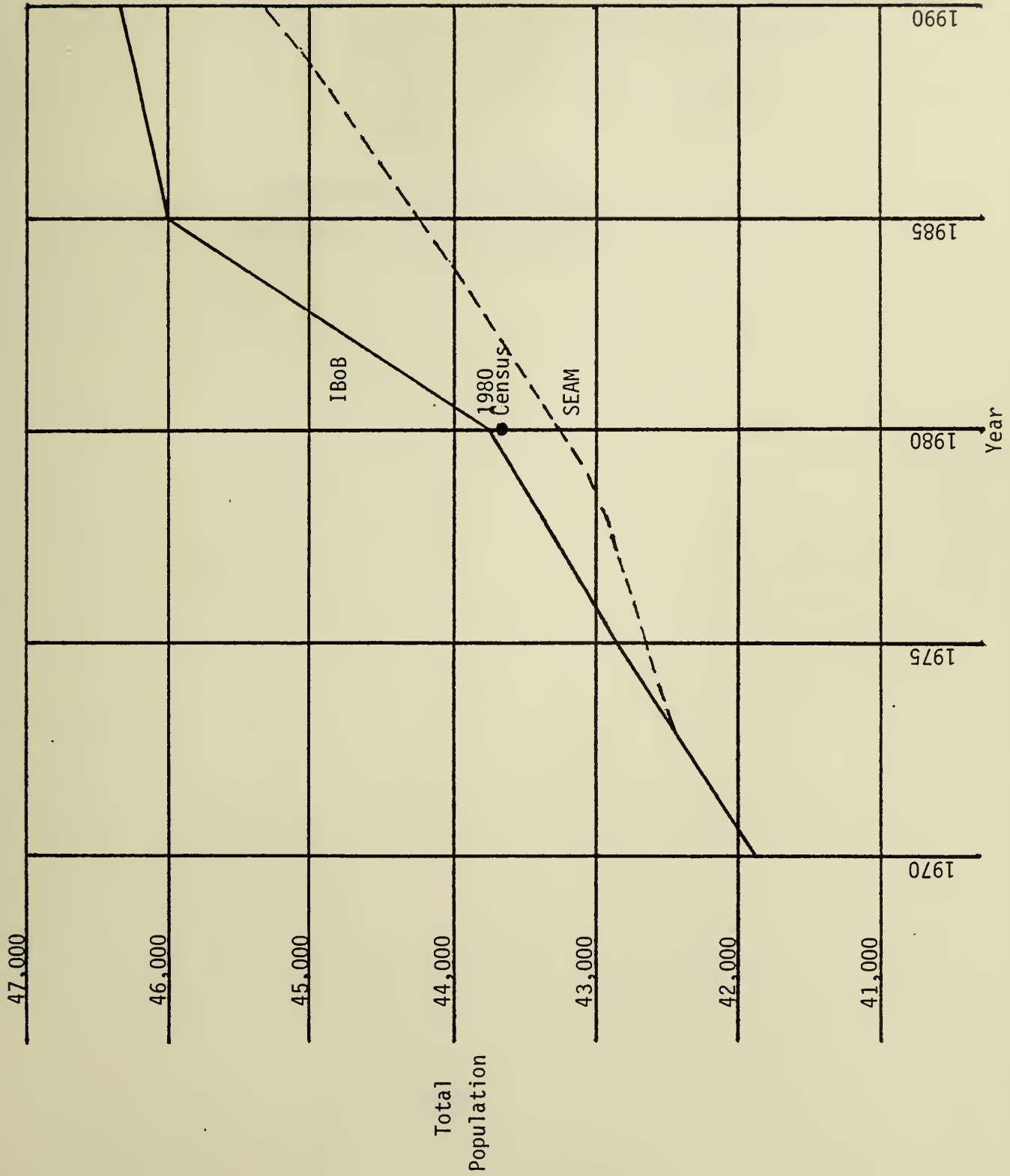


Figure 3

Population Projections: Fulton County







APPENDIX I  
METHODOLOGY FOR ESTIMATING  
RESIDENCE OF RICE LAKE VISITORS





## Methodology for Estimating Geographic Distribution of Visitors to Rice Lake

The methodology used for analyzing how far visitors live from Rice Lake was a basic gravity model of human behavior. This type of model assumes that the people's behavior in response to some attraction is directly related to the attractiveness of the area and inversely related to the distance from the area.

In this example, the recreational amenities at Rice Lake represent the attraction of the Lake. Since we are examining only one attraction (not competing attractions) the relative attractiveness of Rice Lake is irrelevant to modeling trip-making behavior. The sole determinant of trip-making behavior is, therefore, the relative distance from place of residence to Rice Lake.

According to conventional gravity modeling, the probability of any given person making a trip to Rice Lake is inversely proportional to the distance between the Lake and the residence, raised to some exponent.

$$\text{i.e., } P(T)_X = \frac{k}{D_X^\alpha}$$

Where  $P(T)_X$  represents the probability of a trip being made from place X

$D_X$  is distance from X to lake

$\alpha$  is some exponent.

Drawing on the science of physics, the exponent would be 2.

$$\text{i.e., } P(T)_X = \frac{k}{D_X^2}$$

The exponent could take on any value greater than zero, in fact. For the purpose of this exercise it was assumed to equal 2.

The total population in the population centers within a 50-mile radius of the Lake was known (510,200). Furthermore, the number of trips made by people with this radius was known to be 75% of all Rice Lake visitors (about 73,749 per year, average 1978-82). The purpose of this model in this instance, therefore, was to determine the geographic distribution of visitors who traveled to Rice Lake. The average probability of a trip being made from within the 50 miles radius was given by:

$$\frac{73,749}{510,200} \text{ or } 0.145$$

The relative probability of a trip being made from any given place can then be determined based on the distance between the place and the RLCA. When the relative probabilities are weighted by the population of each place, then the actual probability of a trip from each place can therefore be determined as follows:

$$\text{Actual } P(T)_x = \frac{\text{Relative } P(T)_x * \text{Average Probability}}{\text{Sum (Population} * \text{Relative } P(T)_x)}$$

$$\text{Where Relative } P(T)_x = \frac{1}{D_x^2}$$

For convenience, all distances  $D_x$  were expressed as multiples of the distance between the Lake and the closest population center, Canton. The relative probability for this, therefore, equals 1.0 by definition.

The population-weighted sum of relative probabilities equals 0.069, which is slightly less than the average probability, 0.145. This means that the actual probabilities are all slightly larger than the relative probabilities by a factor of 2.1. For the town of Canton this means an average of 2.1 trips per resident over the course of one year.

The actual number of trips from each place within the 50 mile radius was then calculated as the product of the population and the actual probability for each place. The total number of trips for each place, aggregated for each distance zone, are shown in Table IX-11 (page IX-30). The fraction of all trips to Rice Lake which originate in any given place or distance zone is simply the ratio of the number of trips from that place or zone to the total number of trips each year.



<u>Population Center Greater Than 5,000</u>	<u>Population</u>	<u>Fraction of Regional Population</u>	<u>Distance*</u>	<u>Relative Probability</u>	<u>Weighted Relative Probability</u>	<u>Actual Probability</u>	<u>Estimated # of Visitors</u>	<u>Mileage Zone</u>
Beardstown	6,200	.012	36	0.0278	.0003336	.058	360	31 - 40
Bartonville	6,100	.012	18	0.1111	.0013332	.233	1,421	11 - 20
Creve Cour	6,600	.013	24	0.0625	.0008125	.131	865	21 - 30
Canton	14,200	.028	6	1	.028	2.1	29,820	0 - 10
Bloomington	76,100	.149	48	0.0156	.0023244	.033	2,511	41 - 50
Galesburg	37,700	.074	36	0.0278	.0020572	.058	2,187	31 - 40
East Peoria	22,100	.043	24	0.0625	.0026875	.131	2,895	21 - 30
Lincoln	17,600	.034	36	0.0278	.0009452	.058	1,021	31 - 40
Chillicothe	6,000	.012	36	0.0278	.0003336	.058	348	31 - 40
Washington	10,000	.020	36	0.0278	.000556	.058	580	31 - 40
Springfield	92,400	.181	48	0.0156	.0028236	.033	3,049	41 - 50
Peoria Heights	8,200	.016	24	0.0625	.001	.131	1,074	21 - 30
Peoria	127,000	.25	24	0.0625	.015625	.131	16,637	21 - 30
Pekin	32,300	.063	18	0.1111	.0069993	.233	7,526	11 - 20
Morton	13,200	.026	24	0.0625	.001625	.131	1,729	21 - 30
Macomb	23,500	.046	36	0.0278	.0012788	.058	1,363	31 - 40
Monmouth	11,000	.022	48	0.0156	.0003432	.033	363	41 - 50
TOTAL	510,200	1.000			0.0690781		73,749	

\*Calculations were made in multiples of 12 to account for distribution of population within each 10 mile zone.  
Distances shown, therefore, are not actual distances from the site.

APPENDIX J

PRODUCTION AND RESERVES OF COAL





Fulton County Coal Production:  
1975 - 1982: All Coal

Year	Total Production	Feet of Overburden			
		0 - 50	50 - 60	50 - 75	50 - 100
July - Dec. 1975	1,243,541	6,000	676,435	---	561,106
1976	2,888,718	---	743,524	1,089,195	1,055,999
1977	2,759,200	---	---	1,688,162	1,071,038
1978	2,457,659	---	---	741,938	1,715,721
1979	2,798,341	---	---	1,091,572	1,706,769
1980	2,803,112	---	1,265,034	530,400	1,007,678
1981	2,129,582	---	---	1,000,003	1,129,579
1982	2,555,407	---	---	917,011	1,338,396
TOTAL	19,335,560 (19.34)	6,000 (0.01)	2,684,993 (2.68)	7,058,281 (7.06)	9,586,286 (9.59)
Stripped Reserves	24,169,450 (24.17)	7,500 (0.01)	3,356,241 (3.36)	8,822,851 (8.82)	11,982,857 (11.98)

Fulton County Coal Production:  
1975 - 1982: Colchester (No. 2) Coal

Year	Total Production	Feet of Overburden			
		0 - 50	50 - 60	50 - 75	50 - 100
July - Dec. 1975	282,713	---	282,713	---	---
1976	743,524	---	---	743,524	---
1977	559,191	---	---	559,191	---
1978	741,938	---	---	741,938	---
1979	1,091,572	---	---	1,091,572	---
1980	1,265,034	---	1,265,034	---	---
1981	1,000,003	---	---	1,000,003	---
1982	917,011	---	---	917,011	---
TOTAL	6,600,986 (6.60)	---	1,547,747 (1.55)	5,053,239 (5.05)	---
Stripped Reserves	8,251,233 (8.25)	---	1,934,684 (1.93)	6,316,549 (6.32)	---

Production = 80% of stripped reserves

Numbers in parentheses = Million tons of coal

Knox County Coal Production:  
1975 - 1982: All Coal\*

	<u>Year</u>	<u>Total Production</u>	<u>Feet of Overburden</u>			
			<u>0 - 50</u>	<u>50 - 60</u>	<u>50 - 75</u>	<u>50 - 100</u>
July - Dec.	1975	632,656	---	632,656	---	---
	1976	1,534,248	---	1,534,248	---	---
	1977	1,151,893	---	1,151,893	---	---
	1978	745,401	---	745,401	---	---
	1979	809,283	---	809,283	---	---
	1980	269,743	---	269,743	---	---
	1981	---	---	---	---	---
	1982	---	---	---	---	---
	TOTAL	5,143,224 (5.14)	---	5,143,224 (5.14)	---	---
	Stripped Reserves	6,429,030 (6.43)	---	6,429,030 (6.43)	---	---

\* No Colchester (No. 2) coal production

McDonough County Coal Production:  
1975 - 1982

<u>Year</u>	<u>Production*</u>	<u>Stripped Reserves</u>
1975 - 1981	---	---
1982	283,428	354,285
TOTAL	283,428 (0.28)	354,285 (0.35)

\* All Freeman United Industry mine; all Colchester (No. 2) coal; all from 0-50 foot overburden

Production = 80% of stripped reserves

Numbers in parentheses = Million tons of coal

Peoria County Coal Production:  
1975 - 1982: All Coal\*

Year	Total Production	Feet of Overburden			
		0 - 50	50 - 60	50 - 75	50 - 100
July - Dec. 1975	347,896	---	---	---	347,896
1976	716,653	---	---	---	716,653
1977	917,492	---	---	---	917,492
1978	590,726	---	590,726	---	---
1979	615,453	---	---	615,453	---
1980	476,325	---	476,325	---	---
1981	425,041	---	---	425,041	---
1982	502,580	---	---	502,580	---
TOTAL	4,592,166 (4.59)	---	1,067,051 (1.07)	1,543,074 (1.54)	1,982,041 (1.98)
Stripped Reserves	5,740,208 (5.74)	---	1,333,814 (1.33)	1,928,843 (1.93)	2,477,551 (2.48)

\* No Colchester (No. 2) coal production

Production = 80% of stripped reserves

Numbers in parentheses = Million tons of coal

1975 - 1982 coal production in Schuyler and Warren counties was 0.00

Source: Illinois Department of Mines and Minerals, Coal Report of Illinois  
(relevant years).



Fulton County Coal Reserves  
(c. 7/1975)

Block Number	Coal Member	M Tons of Reserves	Feet of Overburden			
			0 - 50	50 - 60	50 - 75	50 - 100
14	7	0.38220	0.38220	---	---	---
133	6	1.86372	0.27956	---	---	1.58416
134*	6	125.00334	32.50087	---	---	92.50247
135	6	6.88750	0.41325	---	---	6.47425
15	5	35.39932	9.91181	---	---	25.48751
37*	5	12.05700	1.68798	---	---	10.36902
38*	5	77.26200	15.45240	---	---	61.80960
39*	5	50.05200	6.50676	---	---	43.54524
40	5	21.44200	2.78746	---	---	18.65454
41	5	19.61600	0.78464	---	---	18.83136
42	5	6.31000	2.46090	---	---	3.89100
43	5	7.28600	0.51002	---	---	6.77598
45	5	6.46700	6.40233	---	---	0.06467
46	5	6.63600	6.63600	---	---	---
53	5	11.38100	11.38100	---	---	---
Sub Total		388.04508	98.09718	---	---	289.94790
Blocks with Obstacles		264.37434	56.14801	---	---	208.22633
Sub Total less Blocks with Obstacles		123.67074	41.94917	---	---	81.72157

\* Highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.

Fulton County Coal Reserves  
(c. 7/1975)

Block Number	Coal Member	M Tons of Reserves	Feet of Overburden			
			0 - 50	50 - 60	50 - 75	50 - 100
32	2	0.36434	0.25868	---	0.10566	---
47	2	8.98600	8.62656	---	0.35944	---
48	2	10.03400	2.30782	7.72618	---	---
49	2	12.91100	4.00241	---	8.90859	---
50*	2	34.51994	17.95037	---	16.56957	---
51	2	16.71292	7.85507	---	8.85785	---
52	2	11.97200	4.07048	---	7.90152	---
54	2	22.69900	10.89552	---	11.80348	---
55	2	52.44400	22.02648	---	30.41752	---
56*	2	14.23600	6.69092	---	7.54508	---
57	2	7.85500	3.53475	---	4.32025	---
58	2	17.51600	8.93316	---	8.58284	---
59	2	18.00816	9.54432	---	8.46384	---
60	2	21.52900	6.88928	---	14.63972	---
61	2	11.38568	6.83141	---	4.55427	---
62	2	8.05244	3.54307	---	4.50937	---
Sub Total		269.22548	123.96030	7.72618	137.53900	---
Blocks with Obstacles		48.75594	24.64129	---	24.11465	---
Sub Total less Blocks with Obstacles		220.46954	99.31901	7.72618	113.42435	---

\* Highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.

Fulton County Coal Reserves  
(c. 7/1975)

All Coal (M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	657.27	367.32	229.78	222.06
Blocks with Obstacles	313.13	104.90	80.79	80.79
Total less Blocks with Obstacles	344.14	262.42	148.99	141.27

Colchester (No. 2) Coal Only  
(M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	269.23	269.23	131.69	123.96
Blocks with Obstacles	48.76	48.76	24.64	24.64
Total less Blocks with Obstacles	220.47	220.47	107.05	99.32



1983 Fulton County Coal Reserves  
(7/1975 Reserves less 1975 - 1982 Stripped Reserves)

All Coal (M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
1975 - 1982 Stripped Reserves	24.17	12.19	3.37	0.01
1983 Total	633.10	355.13	226.41	222.05
1983 Total Less Blocks with Obstacles	319.97	250.23	145.62	141.26

Colchester (No. 2) Coal Only  
(M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
1975 - 1982 Stripped Reserves	8.25	8.25	1.93	0.00
1983 Total	260.98	260.98	129.76	123.96
1983 Total less Blocks with Obstacles	212.22	212.22	105.12	99.32

Knox County Coal Reserves  
(c. 7/1975)

<u>Block Number</u>	<u>Coal Member</u>	<u>M Tons of Reserves</u>	<u>Feet of Overburden</u>			
			<u>0 - 50</u>	<u>50 - 60</u>	<u>50 - 75</u>	<u>50 - 100</u>
14	7	1.98744	1.98744	---	---	---
118	6	11.32800	10.98816	0.33984	---	---
119	6	58.34900	28.00752	---	30.34148	---
120	6	39.73400	13.90690	---	25.82710	---
121*	6	25.54500	14.30520	---	11.23980	---
122	6	7.27100	7.27100	---	---	---
132	6	6.04128	3.02064	---	---	3.02064
133	6	18.84428	2.82664	---	---	16.01764
11*	5	58.28340	19.23352	---	---	39.04988
15	5	45.05368	12.61503	---	---	32.43865
16*	5	26.45100	14.28354	---	12.16746	---
17	5	11.14635	3.45537	---	7.69098	---
18	5	15.03600	12.93096	---	2.10504	---
19	5	6.19500	6.13305	0.06195	---	---
20	5	11.57200	11.57200	---	---	---
21*	5	9.81400	9.81400	---	---	---
22*	5	26.64500	26.64500	---	---	---
31	5	10.86300	10.86300	---	---	---
Sub Total		390.15943	209.85897	0.40179	89.37186	90.52681
Blocks with Obstacles		146.73840	84.28126	---	23.40726	39.04988
Sub Total less Blocks with Obstacles		243.42103	125.57771	0.40179	65.96460	51.47693

\* Highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.

Knox County Coal Reserves  
(c. 7/1975)

<u>Block Number</u>	<u>Coal Member</u>	<u>M Tons of Reserves</u>	<u>Feet of Overburden</u>			
			<u>0 - 50</u>	<u>50 - 60</u>	<u>50 - 75</u>	<u>50 - 100</u>
23	2	6.42528	2.89138	---	3.53390	---
26*	2	6.20313	6.14110	0.06203	---	---
29*	2	6.09840	6.03742	0.06098	---	---
30	2	8.57300	7.80143	0.77157	---	---
32	2	36.06966	25.60946	---	10.46020	---
33	2	9.04700	8.50418	---	0.54282	---
34	2	22.01800	20.91710	---	1.10090	---
35	2	25.51900	15.31140	10.20760	---	---
36	2	9.26300	3.61257	---	5.65043	---
Sub Total		129.21647	96.82604	11.10218	21.28825	---
Blocks with Obstacles		12.30153	12.17852	0.12301	---	---
Sub Total less Blocks with Obstacles		116.91494	84.64752	10.97917	21.28825	---

\* Highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.



Knox County Coal Reserves  
(c. 7/1975)

All Coal (M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	519.38	428.85	318.19	306.69
Blocks with Obstacles	159.04	119.99	96.58	96.46
Total less Blocks with Obstacles	360.34	308.86	221.61	210.23

Colchester (No. 2) Coal Only  
(M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	129.22	129.22	107.93	96.83
Blocks with Obstacles	12.30	12.30	12.30	12.18
Total less Blocks with Obstacles	116.92	116.92	95.63	84.65

1983 Knox County Coal Reserves  
(7/1975 Reserves less 1975 - 1982 Stripped Reserves)

	<u>All Coal (M Tons)</u>			
	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
1975 - 1982 Stripped Reserves	6.43	6.43	6.43	0.00
1983 Total	512.95	422.42	311.76	306.69
1983 Total Less Blocks with Obstacles	353.91	302.43	215.18	210.23

	<u>Colchester (No. 2) Coal Only</u>			
	<u>(M Tons)</u>			
	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
1975 - 1982 Stripped Reserves	0.00	0.00	0.00	0.00
1983 Total	129.22	129.22	107.93	96.83
1983 Total less Blocks with Obstacles	116.92	116.92	95.63	84.65

McDonough County Coal Reserves  
(c. 7/1975)

<u>Block Number</u>	<u>Coal Member</u>	<u>M Tons of Reserves</u>	<u>Feet of Overburden</u>			
			<u>0 - 50</u>	<u>50 - 60</u>	<u>50 - 75</u>	<u>50 - 100</u>
50*	2	3.41406	1.77531	---	1.63875	---
51	2	0.34108	0.16031	---	0.18077	---
61	2	24.60776	14.76466	---	9.84310	---
62	2	3.66020	1.61049	---	2.04971	---
63	2	10.39900	9.46309	---	0.93591	---
64	2	35.88100	25.47551	10.40549	---	---
Sub Total		78.30310	53.24937	10.40549	14.64824	---
Blocks with Obstacles		3.41406	1.77531	---	1.63875	---
Sub Total less Blocks with Obstacles		74.88904	51.47406	10.40549	13.00949	---

\* Highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.



McDonough County Coal Reserves  
(c. 7/1975)

All Coal (M Tons)\*

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	78.30	78.30	63.66	53.25
Blocks with Obstacles	3.41	3.41	1.78	1.78
Total less Blocks with Obstacles	74.89	74.89	61.88	51.47

Colchester (No. 2) Coal Only\*  
(M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	78.30	78.30	63.66	53.25
Blocks with Obstacles	3.41	3.41	1.78	1.78
Total less Blocks with Obstacles	74.89	74.89	61.88	51.47

\* McDonough County has only Colchester No. 2 coal.

1983 McDonough County Coal Reserves  
(7/1975 Reserves less 1975 - 1982 Stripped Reserves)

	<u>All Coal (M Tons)*</u>			
	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
1975 - 1982 Stripped Reserves	0.35	0.35	0.35	0.35
1983 Total	77.95	77.95	63.31	52.90
1983 Total Less Blocks with Obstacles	74.54	74.54	61.53	51.12

	<u>Colchester (No. 2) Coal Only*</u> (M Tons)			
	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
1975 - 1982 Stripped Reserves	0.35	0.35	0.35	0.35
1983 Total	77.95	77.95	63.31	52.90
1983 Total less Blocks with Obstacles	74.54	74.54	61.53	51.12

\* McDonough County has only Colchester (No. 2) coal.

Peoria County Coal Reserves  
(c. 7/1975)

Block Number	Coal Member	M Tons of Reserves	Feet of Overburden			
			0 - 50	50 - 60	50 - 75	50 - 100
10	7	22.08008	15.89766	---	6.18242	---
13	7	13.25600	13.25600	---	---	---
14	7	5.19792	5.19792	---	---	---
123*	6	205.08048	67.67656	---	---	137.40392
124	6	6.49700	5.58742	---	0.90958	---
125	6	12.37100	2.72162	---	---	9.64938
126	6	19.92600	4.58298	---	---	15.34302
127*	6	29.43900	6.47658	---	---	22.96242
128	6	12.71600	4.45060	---	---	8.26540
129	6	8.92200	2.31972	---	---	6.60228
130	6	17.48300	5.59456	---	---	11.88844
131	6	16.77200	9.39232	---	---	7.37968
132	6	31.71672	15.85836	---	---	15.85836
134*	6	1.26266	0.32829	---	---	0.93437
135	6	4.98750	0.29925	---	---	4.68825
136	6	53.18900	11.16969	---	---	42.01931
137*	6	19.50300	4.48569	---	---	15.01731
138	6	6.34900	1.26980	---	5.07920	---
139	6	10.60300	0.63618	---	---	9.96682
11*	5	135.99460	44.87822	---	---	91.11638
12	5	9.98600	1.09846	---	---	8.88754
17	5	0.58665	0.18186	---	0.40479	---
Sub Total			643.91861	223.35974	---	12.57599 407.98288
Blocks with Obstacles			391.27974	123.84534	---	267.43440
Sub Total less Blocks with Obstacles			252.63887	99.51440	---	12.57599 140.54848

\* Highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.



Peoria County Coal Reserves  
(c. 7/1975)

All Coal (M Tons)\*

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	643.92	235.94	223.36	223.36
Blocks with Obstacles	391.28	123.85	123.85	123.85
Total less Blocks with Obstacles	252.64	112.09	99.51	99.51

1983 Peoria County Coal Reserves\*  
(7/1975 Reserves less 1975 - 1982 Stripped Reserves)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
1975 - 1982 Stripped Reserves	5.74	3.26	1.33	0.00
1983 Total	638.18	232.68	222.03	223.36
1983 Total less Blocks with Obstacles	246.90	108.83	98.18	99.51

\* Colchester (No. 2) coal is not present in Peoria County.

Schuyler County Coal Reserves  
(c. 7/1975)

Block Number	Coal Member	M Tons of Reserves	Feet of Overburden			
			0 - 50	50 - 60	50 - 75	50 - 100
71*	5	27.92900	25.13610	---	---	2.79290
72	5	56.73400	39.14646	---	---	17.58754
Sub Total		84.66300	64.28256	---	---	20.38044
Blocks with Obstacles		27.92900	25.13610	---	---	2.79290
Sub Total less Blocks with Obstacles		56.73400	39.14646	---	---	17.58754
59	2	19.50884	10.33969	---	9.16915	---
61	2	0.73456	0.44074	---	0.29382	---
62	2	24.88936	10.95132	---	13.93804	---
65	2	0.90870	0.87235	---	0.03635	---
66	2	33.25896	10.31028	---	22.94868	---
68	2	8.70300	8.52894	0.17406	---	---
69	2	6.88900	6.88900	---	---	---
70*	2	12.37600	7.54936	4.82664	---	---
Sub Total		107.26842	55.88168	5.00007	46.38604	---
Blocks with Obstacles		12.37600	7.54936	4.82664	---	---
Sub Total less Blocks with Obstacles		94.89242	48.33232	0.17406	46.38604	---

\* Highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.

1983 Schuyler County Coal Reserves  
(No 1975 - 1982 Production Occurred)

All Coal (M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	191.93	171.55	125.16	120.16
Blocks with Obstacles	40.30	37.51	37.51	32.69
Total less Blocks with Obstacles	151.63	134.04	87.65	87.47

Colchester (No. 2) Coal Only  
(M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	107.27	107.27	60.88	55.88
Blocks with Obstacles	12.38	12.38	12.38	7.55
Total less Blocks with Obstacles	94.89	94.89	48.50	48.33



Warren County Coal Reserves  
(c. 7/1975)

<u>Block Number</u>	<u>Coal Member</u>	<u>M Tons of Reserves</u>	<u>Feet of Overburden</u>			
			<u>0 - 50</u>	<u>50 - 60</u>	<u>50 - 75</u>	<u>50 - 100</u>
23	2	0.19872	0.08942	---	0.10930	---
24	2	11.86500	11.74635	0.11865	---	---
25*	2	16.16800	14.55120	1.61680	---	---
26*	2	5.95987	5.90027	0.05960	---	---
27*	2	7.83200	7.44040	0.39160	---	---
28*	2	11.67200	8.98744	2.68456	---	---
29*	2	0.83160	0.82328	0.00832	---	---
Sub Total		54.52719	49.53836	4.87953	0.10930	---
Blocks with Obstacles		42.46347	37.70259	4.76088	---	---
Sub Total less Blocks with Obstacles		12.06372	11.83577	0.11865	0.10930	---

\* Highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.

1983 Warren County Coal Reserves  
(No 1975 - 1982 Production Occurred)

All Coal (M Tons)\*

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	54.52	54.52	54.42	49.54
Blocks with Obstacles	42.46	42.46	42.46	37.70
Total less Blocks with Obstacles	12.06	12.06	11.96	11.84

Colchester (No. 2) Coal Only\*  
(M Tons)

	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
TOTAL	54.52	54.52	54.42	49.54
Blocks with Obstacles	42.46	42.46	42.46	37.70
Total less Blocks with Obstacles	12.06	12.06	11.96	11.84

\* Warren County has only Colchester No. 2 coal.

Total July 1975 Coal Reserves  
(Million Tons of Coal)

All Coal

<u>County</u>	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
Fulton	657.27	367.32	229.78	222.06
Knox	519.38	428.85	318.19	306.69
McDonough	78.30	78.30	63.66	53.25
Peoria	643.92	235.74	223.36	223.36
Schuyler	191.93	171.55	125.16	120.16
Warren	54.52	54.52	54.42	49.54
TOTAL	2,145.32	1,336.48	1,014.57	975.06

Colchester (No. 2) Coal Only

<u>County</u>	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
Fulton	269.23	269.23	131.69	123.96
Knox	129.22	129.22	107.93	96.83
McDonough	78.30	78.30	63.66	53.25
Peoria	0.00	0.00	0.00	0.00
Schuyler	107.27	107.27	60.88	55.88
Warren	54.52	54.52	54.42	49.54
TOTAL	638.54	638.54	418.58	379.46

Source: Colin G. Treworgy, Lawrence E. Bengal and Amy G. Dingwell,  
Reserves and Resources of Surface-Minable Coal in Illinois,  
Illinois State Geological Survey Circular 504, 1978,  
Appendix 2, pp. 21-33.



July 1975 Coal Reserves\*  
(Million Tons of Coal)

All Coal

<u>County</u>	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
Fulton	344.14	262.42	148.99	141.27
Knox	360.34	308.86	221.61	210.23
McDonough	74.89	74.89	61.88	51.47
Peoria	252.64	112.09	99.51	99.51
Schuyler	151.63	134.04	87.65	87.47
Warren	12.06	12.06	11.96	11.84
TOTAL	1,195.70	904.36	631.60	601.79

Colchester (No. 2) Coal Only

<u>County</u>	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
Fulton	220.47	220.47	107.05	99.32
Knox	116.92	116.92	95.63	84.65
McDonough	74.89	74.89	61.88	51.47
Peoria	0.00	0.00	0.00	0.00
Schuyler	94.89	94.89	48.50	48.33
Warren	12.06	12.06	11.96	11.84
TOTAL	519.23	519.23	325.02	295.61

\* Less reserves where a highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.

Total 1983 Coal Reserves  
(Total 7/1975 Reserves less 7/1975 - 12/1982 Stripped Reserves)  
(Million Tons of Coal)

All Coal

<u>County</u>	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
Fulton	633.10	355.13	226.41	222.05
Knox	512.95	422.42	311.76	306.69
McDonough	77.95	77.95	63.31	52.90
Peoria	638.18	232.68	222.03	223.36
Schuyler	191.93	171.55	125.16	120.16
Warren	54.52	54.52	54.42	49.54
TOTAL	2,108.63	1,314.25	1,003.09	974.70

Colchester (No. 2) Coal Only

<u>County</u>	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
Fulton	260.98	260.98	129.76	123.96
Knox	129.22	129.22	107.93	96.83
McDonough	77.95	77.95	63.31	52.90
Peoria	0.00	0.00	0.00	0.00
Schuyler	107.27	107.27	60.88	55.88
Warren	54.52	54.52	54.42	49.54
TOTAL	629.94	629.94	416.30	379.11

1983 Coal Reserves\*  
(7/1975 Reserves less 7/1975 - 12/1982 Stripped Reserves)  
(Million Tons of Coal)

<u>County</u>	<u>All Coal</u>			
	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
Fulton	319.97	250.23	145.62	141.26
Knox	353.91	302.43	215.18	210.23
McDonough	74.54	74.54	61.53	51.12
Peoria	246.90	108.83	98.18	99.51
Schuyler	151.63	134.04	87.65	87.47
Warren	12.06	12.06	11.96	11.84
TOTAL	1,159.01	882.13	620.12	601.43

<u>County</u>	<u>Colchester (No. 2) Coal Only</u>			
	<u>Feet of Overburden</u>			
	<u>0 - 100</u>	<u>0 - 75</u>	<u>0 - 60</u>	<u>0 - 50</u>
Fulton	212.22	212.22	105.12	99.32
Knox	116.92	116.92	95.63	84.65
McDonough	74.54	74.54	61.53	51.12
Peoria	0.00	0.00	0.00	0.00
Schuyler	94.89	94.89	48.50	48.33
Warren	12.06	12.06	11.96	11.84
TOTAL	510.63	510.63	322.74	295.26

\* Less reserves where a highway, pipeline, railroad and/or stream runs through block or block surface area and/or block adjacent to a municipality.



APPENDIX K

LOCAL COAL CONSUMPTION



MONTHLY COAL CONSUMPTION OF ELECTRIC GENERATING UNITS: 1981 (TONS)

Unit	Beginning Stocks	January	February	March	April	May	June	July	
<u>CILCO</u>									
R.S. Wallace	5,878	1,282	2,488	3,164	3,085	1,116	6,033	12,899	
E.D. Edwards	127,852	118,115	125,012	110,953	99,731	110,800	125,062	116,181	
Duck Creek	463,892	106,619	76,346	93,301	77,106	93,509	70,168	78,615	
<u>Com Ed</u>									
Powerton	1,938,476	4,060	62,921	247,772	270,691	311,979	370,588	319,124	
<u>Illinois Power</u>									
Havana	169,835	66,804	44,800	67,607	47,550	65,833	25,723	29,912	
TOTAL	2,705,933	296,880	311,567	522,797	488,163	583,237	597,574	556,731	
<u>CILCO</u>									
R.S. Wallace	8,103	9,663	18,311	15,842	8,946	90,932	26,207	20,329	111,261
E.D. Edwards	99,325	105,621	124,014	117,628	98,684	1,351,126	172,155	44,303	1,395,429
Duck Creek	102,974	49,718	-0-	27,131	85,362	860,849	334,652	-129,240	731,609
<u>Com Ed</u>									
Powerton	320,044	297,271	179,883	225,275	385,775	2,995,383	1,868,089	-70,387	2,924,996
<u>Illinois Power</u>									
Havana	24,456	5,788	25,792	22,904	3,355	430,524	135,830	-34,005	396,519
TOTAL	554,902	468,061	348,000	408,780	582,122	5,728,814	2,536,933	-169,000	5,559,814

Source: Federal Power Commission (monthly)



MONTHLY COAL CONSUMPTION OF ELECTRIC GENERATING UNITS: 1982 (TONS)

Unit	Beginning Stocks	January	February	March	April	May	June	July
<u>CILCO</u>								
R.S. Wallace	26,207	12,170	7,790	6,643	6,636	4,672	8,589	9,569
E.D. Edwards	172,155	123,782	126,581	125,143	128,437	88,748	61,086	91,631
Duck Creek	334,652	96,683	95,068	72,165	24,153	92,938	91,086	81,425
<u>Com Ed</u>								
Powerton	1,868,089	382,563	377,651	305,407	215,476	340,778	330,604	388,369
<u>Illinois Power</u>								
Havana	135,830	32,219	38,016	33,673	22,209	20,892	1,626	28,314
TOTAL	2,536,933	647,417	645,106	543,031	396,911	548,028	492,991	599,308
<u>CILCO</u>								
R.S. Wallace	6,954	7,947	8,076	11,700	3,680	94,426	20,855	-5,352
E.D. Edwards	84,142	69,700	74,193	86,725	90,945	1,151,113	192,979	20,824
Duck Creek	96,037	85,973	99,019	57,876	88,663	981,086	515,088	180,436
<u>Com Ed</u>								
Powerton	287,487	300,279	349,603	296,985	329,013	3,904,215	931,144	-936,945
<u>Illinois Power</u>								
Havana	28,528	24,899	39,206	36,480	-0-	306,062	163,406	27,576
TOTAL	503,148	488,798	570,097	489,766	512,301	6,436,902	1,823,472	-713,461
								5,723,441

Source: Federal Power Commission (monthly)

APPENDIX L

MIDWEST/ILLINOIS BASIN COAL FLOW





TOTAL COAL FLOWS FROM MIDWEST/ILLINOIS  
BASIN SUPPLY REGION (% OF TOTAL)

<u>Demand Area</u>	<u>-----1982-----</u>		<u>-----Projected-----</u>			
	<u>Actual</u>	<u>Projected</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
Illinois	17.18	18.30	19.93	18.61	16.20	15.18
Indiana	25.70	23.66	23.45	22.97	11.75	7.25
Michigan & Ohio	2.32	1.89	0.95	0.67	0.43	0.26
Iowa, Minnesota & Wisconsin	7.74	7.89	7.82	5.74	3.65	2.35
Kansas & Missouri	12.62	10.17	9.45	7.04	4.51	2.92
Kentucky & Tennessee	20.36	22.24	22.51	28.87	40.32	42.78
Alabama & Mississippi	3.48	3.47	1.20	2.14	3.35	4.80
Florida & Georgia	8.90	11.28	14.00	13.32	19.18	24.05
Regional Sub-Total	98.30	98.90	99.31	99.39	99.39	99.58
Others	1.70	1.10	0.69	0.61	0.61	0.42
U.S. Total	100.00	100.00	100.00	100.00	100.00	100.00
N	129.2	126.8	116.4	130.6	164.2	191.7

Source computed from:

1982 Actual - Mary B. McNair, Coal Distribution: January - December 1982,  
U.S. Department of Energy, March 1983.

Projected Values - DRI/Zimmerman Coal Model  
Baseline Forecast, January 1983

N = Million Tons



APPENDIX M

COAL PRICES





Discounted Coal Prices

(Current Dollars)

<u>Year</u>	<u>&gt; 3.05%</u> <u>Sulfur Coal</u>		<u>2.25 - 3.04%</u> <u>Sulfur Coal</u>	
	<u>Coal Model</u> <u>Forecast*</u>	<u>Discounted</u> <u>by 9.8%</u>	<u>Coal Model</u> <u>Forecast*</u>	<u>Discounted</u> <u>by 9.8%</u>
1985	\$ 36.60	\$ 33.33	\$ 38.63	\$ 35.18
1986	39.76	36.21	42.94	39.11
1987	43.01	39.17	47.23	43.01
1988	47.22	43.01	52.46	47.78
1989	51.58	46.98	58.67	53.43
1990	56.16	51.15	65.00	59.20
1991	60.82	55.39	71.37	65.00
1992	65.68	59.82	77.94	70.98
1993	69.84	63.61	84.24	76.72
1994	73.68	67.10	90.00	81.97
1995	78.13	71.16	97.00	88.34
1996	83.23	75.80	104.93	95.56
1997	88.38	80.49	112.83	102.76
1998	93.90	85.52	120.18	109.45
1999	99.48	90.60	129.24	117.70
2000	\$105.45	\$ 96.04	\$137.96	\$125.65

\*Source: DRI/Zimmerman Coal Model, Baseline Forecast, January 1983.

# Discounted Coal Prices

(1983 Dollars)

Year	GNP Price Deflator (1983=1.000) <sup>1</sup>	Discounted Price for >3.05% Sulfur Coal <sup>2</sup>		Discounted Price for 2.25-3.04% Sulfur Coal <sup>2</sup>	
		Current \$'s	1983 \$'s	Current \$'s	1983 \$'s
1985	1.112	\$ 33.33	\$ 29.95	\$ 35.18	\$ 31.64
1986	1.180	36.21	30.69	39.11	33.14
1987	1.252	39.17	31.29	43.01	34.35
1988	1.331	43.01	32.31	47.78	35.90
1989	1.413	46.98	33.25	53.43	37.81
1990	1.500	51.15	34.10	59.20	39.47
1991	1.593	55.39	34.77	65.00	40.80
1992	1.690	59.82	35.40	70.98	42.00
1993	1.790	63.61	35.54	76.72	42.86
1994	1.895	67.10	35.41	81.97	43.26
1995	2.006	71.16	35.47	88.34	44.04
1996	2.124	75.80	35.69	95.56	44.99
1997	2.248	80.49	35.81	102.76	45.71
1998	2.377	85.52	35.98	109.45	46.05
1999	2.514	90.60	36.04	117.70	46.82
2000	2.658	\$ 96.04	\$ 36.13	\$125.65	\$ 47.27

## Notes:

- 1.) Source: DRI Energy Price Forecasts for U.S. East North Central Region (Illinois, Indiana, Michigan, Ohio and Wisconsin), April 1983.
- 2.) Discount via percent annual price changes recorded in DRI, Review of the U.S. Economy, June 1983, Table 11.2, p. 1.100.



APPENDIX N

MARKET VALUE OF COAL AND SALES TAX REVENUES



RICE LAKE COAL BLOCK SALES TAX REVENUE (in 1983 dollars)

(if > 3.05% sulfur content, assuming 100% sold in-state, total  
of 9,200,000 marketable tons, with production beginning in 1986)

Lower-Bound Projected Price Estimates

Mine Life of 9 Years (1,022,222.2 tons produced annually assuming constant production)

<u>Year</u>	<u>Price (\$'s/Ton)</u>	<u>Total Market Value (1983 \$'s)</u>	<u>State Sales Tax (Value X 0.049)</u>	<u>Local Sales Tax (Value X 0.0098)</u>
1986	30.69	31,371,999.32	1,537,227.97	307,445.59
1987	31.29	31,985,332.64	1,567,281.30	313,456.26
1988	32.31	33,027,999.28	1,618,371.97	323,674.39
1989	33.25	33,988,888.15	1,665,455.52	333,091.10
1990	34.10	34,857,777.02	1,708,031.07	341,606.21
1991	34.77	35,542,665.89	1,741,590.63	348,318.13
1992	35.40	36,186,665.88	1,773,146.63	354,629.33
1993	35.54	36,329,776.99	1,780,159.07	356,031.81
1994	35.41	36,196,888.10	1,773,647.52	354,729.50
TOTAL		309,487,993.30	15,164,911.67	3,032,982.32

<u>Year</u>	<u>Vendor Collection Fee (Value X 0.001)</u>	<u>State Administra- tive Cost (0.0002)</u>	<u>Total Sales Tax (Value X 0.060)</u>
1986	31,372.00	6,274.40	1,882,319.96
1987	31,985.33	6,397.07	1,919,119.96
1988	33,028.00	6,605.60	1,981,679.96
1989	33,988.89	6,797.78	2,039,333.29
1990	34,857.78	6,971.56	2,091,466.62
1991	35,542.67	7,108.53	2,132,559.95
1992	36,186.67	7,237.33	2,171,199.95
1993	36,329.78	7,265.96	2,179,786.62
1994	36,196.89	7,239.38	2,171,813.29
TOTAL	309,488.01	61,897.61	18,569,279.60



RICE LAKE COAL BLOCK SALES TAX REVENUE (in 1983 dollars)

(if > 3.05% sulfur content, assuming 100% sold in-state, total  
of 9,200,000 marketable tons, with production beginning in 1986)

Lower-Bound Projected Price Estimates

Mine Life of 15 Years (613,333.3 tons produced annually assuming constant production)

<u>Year</u>	<u>Price (\$'s/Ton)</u>	<u>Total Market Value (1983 \$'s)</u>	<u>State Sales Tax (Value X 0.049)</u>	<u>Local Sales Tax (Value X 0.0098)</u>
1986	30.69	18,823,198.98	922,336.75	184,467.35
1987	31.29	19,191,198.96	940,368.75	188,073.75
1988	32.31	19,816,798.92	971,023.15	194,204.63
1989	33.25	20,393,332.23	999,273.28	199,854.66
1990	34.10	20,914,655.53	1,024,818.12	204,963.72
1991	34.77	21,325,598.84	1,044,954.34	208,990.87
1992	35.40	21,711,998.82	1,063,887.94	212,777.59
1993	35.54	21,797,865.48	1,068,095.41	213,619.08
1994	35.41	21,718,132.15	1,064,188.48	212,837.70
1995	35.47	21,754,932.15	1,065,991.68	213,198.34
1996	35.69	21,889,865.48	1,072,603.41	214,520.68
1997	35.81	21,963,465.47	1,076,209.81	215,241.96
1998	35.98	22,067,732.13	1,081,318.87	216,263.77
1999	36.04	22,104,532.13	1,083,122.07	216,624.41
2000	36.13	22,159,732.13	1,085,826.87	217,165.37
TOTAL		317,633,039.40	15,564,018.93	3,112,803.88

<u>Year</u>	<u>Vendor Collection Fee (Value X 0.001)</u>	<u>State Administra- tive Cost (0.0002)</u>	<u>Total Sales Tax (Value X 0.060)</u>
1986	18,823.20	3,764.64	1,129,391.94
1987	19,191.20	3,838.24	1,151,471.94
1988	19,816.80	3,963.36	1,189,007.94
1989	20,393.33	4,078.67	1,223,599.93
1990	20,914.67	4,182.93	1,254,879.33
1991	21,325.60	4,265.12	1,279,535.93
1992	21,712.00	4,342.40	1,302,719.93
1993	21,797.87	4,359.57	1,307,871.93
1994	21,718.13	4,343.63	1,303,087.93
1995	21,754.93	4,350.99	1,305,295.93
1996	21,889.87	4,377.97	1,313,391.93
1997	21,963.47	4,392.69	1,317,807.93
1998	22,067.73	4,413.55	1,324,063.93
1999	22,104.53	4,420.91	1,326,271.93
2000	22,159.73	4,431.95	1,329,583.93
TOTAL	317,633.06	63,526.62	19,057,982.36

RICE LAKE COAL BLOCK SALES TAX REVENUE (in 1983 dollars)

(if 2.25-3.04% sulfur content, assuming 100% sold in-state, total  
of 9,200,000 marketable tons, with production beginning in 1986)

Upper-Bound Projected Price Estimates

Mine Life of 9 Years (1,022,222.2 tons produced annually assuming constant production)

<u>Year</u>	<u>Price (\$'s/Ton)</u>	<u>Total Market Value (1983 \$'s)</u>	<u>State Sales Tax (Value X 0.049)</u>	<u>Local Sales Tax (Value X 0.0098)</u>
1986	33.14	33,876,443.71	1,659,945.74	331,989.15
1987	34.35	35,113,332.57	1,720,553.30	344,110.66
1988	35.90	36,697,776.98	1,798,191.07	359,638.21
1989	37.81	38,650,221.38	1,893,860.85	378,772.17
1990	39.47	40,347,110.23	1,977,008.40	395,401.68
1991	40.80	41,706,665.76	2,043,626.62	408,725.32
1992	42.00	42,933,332.40	2,103,733.29	420,746.66
1993	42.86	43,812,443.49	2,146,809.73	429,361.95
1994	43.26	44,221,332.37	2,166,845.29	433,369.06
TOTAL		357,358,658.90	17,510,574.29	3,502,114.86

<u>Year</u>	<u>Vendor Collection Fee (Value X 0.001)</u>	<u>State Administra- tive Cost (0.0002)</u>	<u>Total Sales Tax (Value X 0.060)</u>
1986	33,876.44	6,775.29	2,032,586.62
1987	35,113.33	7,022.67	2,106,799.95
1988	36,697.78	7,339.56	2,201,866.62
1989	38,650.22	7,730.04	2,319,013.28
1990	40,347.11	8,069.42	2,420,826.61
1991	41,706.67	8,341.33	2,502,399.95
1992	42,933.33	8,586.67	2,575,999.94
1993	43,812.44	8,762.49	2,628,746.61
1994	44,221.33	8,844.27	2,653,279.94
TOTAL	357,358.65	71,471.74	21,441,519.53

RICE LAKE COAL BLOCK SALES TAX REVENUE (in 1983 dollars)

(if 2.25-3.04% sulfur content, assuming 100% sold in-state, total  
of 9,200,000 marketable tons, with production beginning in 1986)

Upper-Bound Projected Price Estimates

Mine Life of 15 Years (613,333.3 tons produced annually assuming constant production)

<u>Year</u>	<u>Price (\$'s/Ton)</u>	<u>Total Market Value (1983 \$'s)</u>	<u>State Sales Tax (Value X 0.049)</u>	<u>Local Sales Tax (Value X 0.0098)</u>
1986	33.14	20,325,865.56	995,967.41	199,193.48
1987	34.35	21,067,998.86	1,032,331.94	206,466.39
1988	35.90	22,018,665.47	1,078,914.61	215,782.92
1989	37.81	23,190,132.07	1,136,316.47	227,263.29
1990	39.47	24,208,265.35	1,186,205.00	237,241.00
1991	40.80	25,023,998.64	1,226,175.93	245,235.19
1992	42.00	25,759,998.60	1,262,239.93	252,447.99
1993	42.86	26,287,465.24	1,288,085.80	257,617.16
1994	43.26	26,532,798.56	1,300,107.13	260,021.43
1995	44.04	27,011,198.53	1,323,548.73	264,709.75
1996	44.99	27,593,865.17	1,352,099.39	270,419.88
1997	45.71	28,035,465.14	1,373,737.79	274,747.56
1998	46.05	28,243,998.47	1,383,955.93	276,791.19
1999	46.82	28,716,265.11	1,407,096.99	281,419.40
2000	47.27	28,992,265.09	1,420,620.99	284,124.20
TOTAL		383,008,245.90	18,767,404.05	3,753,480.83

<u>Year</u>	<u>Vendor Collection Fee (Value X 0.001)</u>	<u>State Administra- tive Cost (0.0002)</u>	<u>Total Sales Tax (Value X 0.060)</u>
1986	20,305.87	4,065.17	1,219,551.93
1987	21,068.00	4,213.60	1,264,079.93
1988	22,018.67	4,403.73	1,321,119.93
1989	23,190.13	4,638.03	1,391,407.92
1990	24,208.27	4,841.65	1,452,495.92
1991	25,024.00	5,004.80	1,501,439.92
1992	25,760.00	5,152.00	1,545,599.92
1993	26,287.47	5,257.49	1,577,247.91
1994	26,532.80	5,306.56	1,591,967.91
1995	27,011.20	5,402.24	1,620,671.91
1996	27,593.87	5,518.77	1,655,631.91
1997	28,035.47	5,607.09	1,682,127.91
1998	28,244.00	5,648.80	1,694,639.91
1999	28,716.27	5,743.25	1,722,975.91
2000	28,992.27	5,798.45	1,739,535.91
TOTAL	383,008.29	76,601.63	22,980,494.75



APPENDIX O

LETTER - FREEMAN UNITED TO EEA



**FREEMAN UNITED COAL MINING COMPANY**

DIVISION OF MATERIAL SERVICE CORPORATION  
P.O. BOX 1587 · 123 SOUTH 10TH STREET · MT VERNON, ILLINOIS 62864 · 618/244-5252

April 29, 1983

Ms. Elizabeth Johnson  
State Geological Survey Division  
Illinois Department of Energy & Natural Resources  
Natural Resources Building  
615 East Peabody Drive  
Champaign, IL 61820

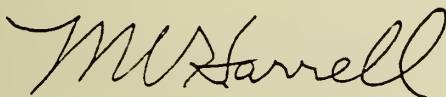
Dear Liz:

The request as to the estimated real estate taxes that might be paid, if the Rice Lake coal project should materialize, is estimated to be approximately \$20,000 per year. The estimate was made assuming a farm land assessment value of \$145 per acre, with a rate of .05004 on approximately 2800 acres.

Also, enclosed are two Rice Lake composite photographs showing the proposed mining area in red and the Conservation Department's Rice Lake Conservation Area being shown in green.

This should provide you with all the information requested.

Very truly yours,



M. V. Harrell  
Senior Vice President

MVH:ld  
Enc.  
cc: Dale E. Walker

ENR Note: \$145 per acre times rate of .05004 equals \$7.2558 per acre.





APPENDIX P

SEAM OUTPUT





Increased Public Costs Due to Natural Population Increase\* (SEAM Estimate): Fulton County:

1980 - 1990 (in constant 1976 dollars)

OPERATING PERIOD INCREASE			CONSTRUCTION PEAK INCREASE		
SERVICES	FACILITIES	ANNUAL SERVICES & FACILITIES **	SERVICES	FACILITIES	ANNUAL SERVICES & FACILITIES **
\$ 400.00	NO DATA	\$ 400.00	\$ 400.00	NO DATA	\$ 400.00
\$ 3500.00	\$ 847710.00	\$ 89840.00	\$ 3500.00	\$ 847710.00	\$ 89840.00
\$ 29030.00	\$ 34000.00	\$ 32490.00	\$ 29030.00	\$ 34000.00	\$ 32490.00
\$ 4140.00	\$ 9880.00	\$ 5150.00	\$ 4140.00	\$ 9880.00	\$ 5150.00
\$ 3380.00	\$ 485700.00	\$ 52850.00	\$ 3380.00	\$ 485700.00	\$ 52850.00
\$ 2480.00	NO DATA	\$ 2480.00	\$ 2480.00	NO DATA	\$ 2480.00
\$ 2120.00	\$ 300620.00	\$ 32740.00	\$ 2120.00	\$ 300620.00	\$ 32740.00
\$ 1050.00	\$ 81050.00	\$ 9310.00	\$ 1050.00	\$ 81050.00	\$ 9310.00
\$ 18700.00	\$ 22710.00	\$ 21010.00	\$ 18700.00	\$ 22710.00	\$ 21010.00
\$ 25550.00	\$ 229660.00	\$ 48940.00	\$ 25550.00	\$ 229660.00	\$ 48940.00
\$ 425630.00	\$ 1556380.00	\$ 584150.00	\$ 425630.00	\$ 1556380.00	\$ 584150.00
\$ 515980.00	\$ 3567710.00	\$ 879360.00	\$ 515980.00	\$ 3567710.00	\$ 879360.00

\* 1980 - 2000 population increase = 1,619

\*\* Facilities' costs discounted over 20 years at 8% interest.

Source: SEAM Model

\*  
Increased Public Costs Due to Natural Population Increase (Illinois Bureau of the Budget Estimate):

Fulton County: 1980 - 1990 (in constant 1976 dollars)

OPERATING PERIOD INCREASE				CONSTRUCTION PEAK INCREASE			
SERVICES	FACILITIES	ANNUAL SERVICES & FACILITIES **		SERVICES	FACILITIES	ANNUAL SERVICES & FACILITIES **	
\$ 530.00	NO DATA	\$ 530.00	SOCIAL WELFARE	\$ 530.00	NO DATA	\$ 530.00	
\$ 11000.00	\$ 1398010.00	\$ 153390.00	HOSPITAL	\$ 11000.00	\$ 1398010.00	\$ 153390.00	
\$ 70410.00	\$ 56070.00	\$ 76120.00	POLICE	\$ 70410.00	\$ 56070.00	\$ 76120.00	
\$ 25740.00	\$ 16290.00	\$ 27400.00	FIRE	\$ 25740.00	\$ 16290.00	\$ 27400.00	
\$ 34360.00	\$ 801000.00	\$ 115940.00	SEWAGE	\$ 34360.00	\$ 801000.00	\$ 115940.00	
\$ 19330.00	NO DATA	\$ 19330.00	SOLID WASTE	\$ 19330.00	NO DATA	\$ 19330.00	
\$ 17570.00	\$ 495770.00	\$ 68060.00	RECREATION	\$ 17570.00	\$ 495770.00	\$ 68060.00	
\$ 5500.00	\$ 133660.00	\$ 19110.00	LIBRARIES	\$ 5500.00	\$ 133660.00	\$ 19110.00	
\$ 36470.00	\$ 37460.00	\$ 40290.00	GENERAL GOV'T	\$ 36470.00	\$ 37460.00	\$ 40290.00	
\$ 42130.00	\$ 254510.00	\$ 68050.00	WATER TREATMENT	\$ 42130.00	\$ 254510.00	\$ 68050.00	
\$ 701940.00	\$ 2403030.00	\$ 946690.00	EDUCATION	\$ 701940.00	\$ 2403030.00	\$ 946690.00	
\$ 964980.00	\$ 5595800.00	\$ 1534910.00	TOTALS	\$ 964980.00	\$ 5595800.00	\$ 1534910.00	

\* 1980 - 2000 population increase = 2,670

\*\* Facilities' costs discounted over 20 years at 8% interest.

Source: SEAM Model

APPENDIX Q

IMPLICIT PRICE DEFLATORS





Implicit Price Deflators for State and Local  
Government Expenditures (1972 = 1.000)

<u>Year</u>	<u>Expenditures for:</u>		
	<u>Services</u>	<u>Structures</u>	<u>Total Costs</u>
1976	1.359	1.435	1.383
1977	1.464	1.519	1.484
1978	1.565	1.716	1.597
1979	1.680	1.975	1.737
1980	1.838	2.208	1.916
1981	2.010	2.303	2.082
1982	2.179	2.325	2.227
1983*	2.280	2.313	2.305

\* Preliminary 1st Quarter Estimate (Seasonally Adjusted at Annual Rate)

Sources:

1976 - 1981 - U. S. Department of Commerce, Bureau of Economic Analysis, "Revised Estimates of the National Income and Product Accounts," Survey of Current Business, 62 (July 1982): Table 7.14 B, p. 109.

1982 - 1983 - U. S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, 63 (April 1983): Table 7.14 B, p. 21.

Implicit Price Deflators for State and Local  
Government Expenditures (1976 = 1.000)

<u>Year</u>	<u>Expenditures for:</u>		
	<u>Services</u>	<u>Structures</u>	<u>Total Costs</u>
1976	1.000	1.000	1.000
1977	1.077	1.059	1.073
1978	1.152	1.196	1.155
1979	1.236	1.376	1.256
1980	1.352	1.539	1.385
1981	1.479	1.605	1.505
1982	1.603	1.620	1.610
1983*	1.678	1.612	1.667

\* Preliminary 1st Quarter Estimate (Seasonally Adjusted at Annual Rate)

(1976 = 1.000) Deflators = Each annual (1972 = 1.000) deflator divided by the respective 1976 deflator (1972 = 1.000)





APPENDIX R

SEAM FINDINGS



Increased Public Costs Due to Natural Population  
Increase: Fulton County: 1980 - 1990

(1983 Dollars)

<u>Public Service</u>	<u>Annual Estimates for Services</u>		<u>Total Estimates for Facilities</u>		<u>Annual Estimates Services and Facilities**</u>	
	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>
Social Welfare	671	889	No Data	No Data	667	884
Hospital	5,873	18,458	1,366,508	2,253,592	149,763	255,701
Police	48,712	118,148	54,808	90,385	54,161	126,892
Fire	6,947	43,192	15,927	26,259	8,585	45,676
Sewage	5,672	57,656	782,948	1,291,212	88,101	193,272
Solid Waste	4,161	32,436	No Data	No Data	4,134	32,223
Recreation	3,557	29,482	484,599	799,181	54,578	113,456
Libraries	1,762	9,229	130,653	215,460	15,520	31,856
General Government	31,379	61,197	36,609	60,386	35,024	67,163
Water Treatment	42,873	70,694	370,212	410,270	81,583	113,439
Education	714,207	1,177,855	2,508,885	3,873,684	973,778	1,578,132
TOTALS	865,814	1,619,236	5,751,149	9,020,430	1,465,893	2,558,695
Population Increase	1619*	2670†	1619*	2670†	1619*	2670†

\* SEAM

† IBoB

\*\* Facilities' costs discounted over 20 years at 8% interest.



Increased Public Costs Due to Natural Population  
Increase: Fulton County: 1980 - 2000

(1983 Dollars)

<u>Public Service</u>	<u>Annual Estimates for Services</u>		<u>Total Estimates for Facilities</u>		<u>Annual Estimates Services and Facilities**</u>	
	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>
Social Welfare	1,330	1,863	No Data	No Data	1,322	1,852
Hospital	11,641	38,679	2,708,556	4,722,402	296,845	535,821
Police	96,552	247,579	108,635	189,402	107,353	265,902
Fire	13,770	90,509	31,569	55,026	17,016	95,714
Sewage	11,242	120,818	1,551,881	2,705,735	174,625	405,001
Solid Waste	8,248	67,970	No Data	No Data	8,194	67,523
Recreation	7,050	61,780	960,524	1,674,684	108,179	237,747
Libraries	3,492	19,339	258,967	451,496	30,762	66,754
General Government	62,196	128,238	72,563	126,539	69,421	140,740
Water Treatment	84,979	148,139	733,797	859,721	161,706	237,711
Education	1,415,630	2,468,195	4,972,861	8,117,305	1,930,125	3,306,976
TOTALS	1,716,130	3,393,109	11,399,352	18,902,311	2,905,547	5,361,745
Population Increase	3209*	5595†	3209*	5595†	3209*	5595†

\* SEAM

† IBoB

\*\* Facilities' costs discounted over 20 years at 8% interest.

Increased Public Costs Due to Natural Population  
Increase: Fulton County: 1990 - 2000

(1983 Dollars)

<u>Public Service</u>	<u>Annual Estimates for Services</u>		<u>Total Estimates for Facilities</u>		<u>Annual Estimates Services and Facilities**</u>	
	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>
Social Welfare	659	974	No Data	No Data	655	968
Hospital	5,768	20,221	1,342,048	2,468,810	147,082	280,120
Police	47,840	129,431	53,827	99,017	53,192	139,010
Fire	6,823	47,317	15,642	28,767	8,431	50,038
Sewage	5,570	63,162	768,933	1,414,523	86,524	211,729
Solid Waste	4,087	35,534	No Data	No Data	4,060	35,300
Recreation	3,493	32,298	475,925	875,503	53,601	124,291
Libraries	1,730	10,110	128,314	236,036	15,242	34,898
General Government	30,817	67,041	35,954	66,153	34,397	73,577
Water Treatment	42,106	77,445	363,585	449,451	80,123	124,272
Education	701,423	1,290,340	2,463,976	4,243,621	956,347	1,728,844
TOTALS	850,316	1,773,873	5,648,203	9,881,881	1,439,654	2,803,050
Population Increase	1590*	2925†	1590*	2925†	1590*	2925†

\* SEAM

† IBoB

\*\* Facilities' cost discounted over 20 years at 8% interest.





APPENDIX S

REMI/ILFS SCENARIOS



Independent Impact of 160 Employees at Rice Lake Mine\*

(Scenario #1)

Employment Table (numbers of new employees)

<u>Industry</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
MANUFACTURING	20	22	22	22	22	22	22	22	21
Durables	15	16	16	16	16	16	16	16	16
Nondurables	5	6	6	6	6	6	6	6	6
NONMANUFACTURING	342	373	378	380	381	382	382	382	382
Mining	166	166	166	166	166	166	166	166	166
Cont. Construct.	15	17	18	18	18	19	19	19	19
Trans. & Pub. Ut.	17	19	19	19	19	19	19	19	19
Fin., Ins. & R.E.	29	32	32	32	32	33	33	33	33
Retail Trade	43	50	50	51	51	51	50	50	50
Wholesale Trade	15	17	18	18	18	18	18	18	18
Services	57	66	68	69	69	69	70	69	69
Government	--	6	6	7	7	7	7	7	7
State & Local	--	6	6	7	7	7	7	7	7
TOTAL EMPLOYMENT	362	395	400	402	403	403	404	404	404

\* Columns may not sum properly due to independent rounding.

Source: REMI/ILFS



Scenario #1 (cont.)

Personal Income Table (millions of 1983 dollars)

<u>By Place of Work</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Wage & Salary Dis.	12.3	13.5	14.6	15.7	17.9	19.1	20.2	21.3	23.5
Other Labor Inc.	2.2	2.2	2.2	2.2	2.2	3.4	3.4	3.4	3.4
Proprietors Inc.	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2
Total Labor & Proprietors Income	14.6	16.8	17.9	20.2	21.3	23.5	24.7	26.9	29.1

By Industry

Manufacturing	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Durables	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Nonmanufacturing	13.5	15.7	16.8	19.1	20.2	22.4	23.5	25.8	28.0
Mining	9.0	9.0	10.1	11.2	11.2	12.3	13.5	14.6	15.7
Construction	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Transport & P.U.	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Fin., Ins. & R.E.	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2	2.2
Retail Trade	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Wholesale Trade	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Service	1.1	2.2	2.2	2.2	2.2	2.2	3.4	3.4	3.4

Scenario #1 (cont.)

Derivation of Personal Income (millions of 1983 dollars)

<u>By Place of Work</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Total Labor & Proprietors Income	14.6	16.8	17.9	20.2	21.3	23.5	24.7	26.9	29.1
Less Social Security	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Plus Dividends, Interest, Rent	---	---	---	1.1	1.1	1.1	1.1	1.1	1.1
Plus Transfer Payments	-1.1	-1.1	-1.1	-1.1	-2.2	-2.2	-2.2	-2.2	-2.2
Personal Income	12.3	14.6	16.8	17.9	19.1	21.3	22.4	23.5	25.8
Less Taxes	2.2	3.4	3.4	3.4	3.4	4.5	4.5	4.5	5.6
Disposable Income	10.1	12.3	13.5	14.6	15.7	16.8	17.9	19.1	20.2
Real Disposable Income	2.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4

Net Impact of 160 Employees at Rice Lake Mining  
Operation and loss of 98,000 Tourist - Day Trips Yearly\*

(Scenario #2)

Employment Table (numbers of new employees)

<u>Industry</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
MANUFACTURING	18	19	19	19	19	20	20	20	19
Durables	14	15	15	15	15	15	15	15	15
Nondurables	4	5	5	5	5	5	5	5	5
NONMANUFACTURING	249	274	279	282	284	286	287	288	289
Mining	166	166	166	166	166	166	166	166	166
Cont. Construct.	14	15	16	16	16	17	17	17	17
Trans. & Pub. Ut.	12	14	14	14	14	14	14	14	14
Fin., Ins. & R.E.	26	28	28	28	28	29	30	30	30
Retail Trade	5	11	11	13	13	13	13	13	14
Wholesale Trade	13	14	15	15	15	15	15	15	15
Services	14	21	23	25	25	25	27	26	27
Government	—	4	4	5	5	5	5	5	5
State & Local	--	4	4	5	5	5	5	5	5
TOTAL EMPLOYMENT	267	293	299	302	304	305	307	308	309

\* Columns may not sum properly due to independent rounding.

Source: REMI/ILFS



Scenario #2 (cont.)

Personal Income Table (millions of 1983 dollars)

<u>By Place of Work</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Wage & Salary Dis.	10.1	11.3	12.4	13.5	14.5	15.7	16.8	17.9	20.1
Other Labor Inc.	2.2	2.2	2.2	2.2	2.2	3.4	3.4	3.4	3.4
Proprietors Inc.	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2
Total Labor & Proprietors Income	12.4	14.6	14.5	16.8	17.9	20.1	20.2	22.4	24.6
 <u>By Industry</u>									
Manufacturing	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Durables	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Nonmanufacturing	11.3	13.5	13.4	15.7	16.8	19.0	20.1	21.3	23.5
Mining	9.0	9.0	10.1	11.2	11.2	12.3	13.5	14.6	15.7
Construction	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Transport & P.U.	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Fin., Ins. & R.E.	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2	2.2
Retail Trade	---	---	---	---	---	---	---	---	---
Wholesale Trade	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Service	---	1.1	1.1	1.1	1.1	---	1.2	1.2	1.2

Scenario #2 (cont.)

Derivation of Personal Income (millions of 1983 dollars)

<u>By Place of Work</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Total Labor & Proprietors Income	12.4	14.6	14.5	16.8	17.9	20.1	20.2	22.4	24.6
Less Social Security	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Plus Dividends, Interest, Rent	---	---	---	1.1	1.1	1.1	1.1	1.1	1.1
Plus Transfer Payments	-1.1	-1.1	-1.1	-1.1	-2.2	-2.2	-2.2	-2.2	-2.2
Personal Income	10.1	12.4	14.6	15.7	15.7	17.9	19.0	20.1	22.4
Less Taxes	2.2	3.4	3.4	2.3	2.3	3.4	3.4	3.4	4.5
Disposable Income	9.0	10.1	11.3	12.4	13.5	14.6	15.7	16.9	16.8
Real Disposable Income	2.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4

Independent Impact of Loss of 98,000 Tourists - Day Trips\*

(Scenario #3)

Employment Table (numbers of new employees)

<u>Industry</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
MANUFACTURING	-2	-3	-3	-3	-3	-2	-2	-2	-2
Durables	-1	-1	-1	-1	-1	-1	-1	-1	-1
Nondurables	-1	-1	-1	-1	-1	-1	-1	-1	-1
NONMANUFACTURING	-93	-99	-99	-98	-97	-96	-95	-94	-93
Mining	---	---	---	---	---	---	---	---	---
Cont. Construct.	-1	-2	-2	-2	-2	-2	-2	-2	-2
Trans. & Pub. Ut.	-5	-5	-5	-5	-5	-5	-5	-5	-5
Fin., Ins. & R.E.	-3	-4	-4	-4	-4	-4	-3	-3	-3
Retail Trade	-38	-39	-39	-38	-38	-38	-37	-37	-36
Wholesale Trade	-2	-3	-3	-3	-3	-3	-3	-3	-3
Services	-43	-45	-45	-44	-44	-44	-43	-43	-42
Government	---	-2	-2	-2	-2	-2	-2	-2	-2
State & Local	---	-2	-2	-2	-2	-2	-2	-2	-2
TOTAL EMPLOYMENT	-95	-102	-101	-100	-99	-98	-97	-96	-95

\* Columns may not sum properly due to independent rounding.

Source: REMI/ILFS

Scenario #3 (cont.)

Personal Income Table (millions of 1983 dollars)

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
<u>By Place of Work</u>									
Wage & Salary Dis.	-2.2	-2.2	-2.2	-2.2	-3.4	-3.4	-3.4	-3.4	-3.4
Other Labor Inc.	---	---	---	---	---	---	---	---	---
Proprietors Inc.	---	---	---	---	---	---	---	---	---
Total Labor & Proprietors Inc.	-2.2	-2.2	-3.4	-3.4	-3.4	-3.4	-4.5	-4.5	-4.5
<u>By Industry</u>									
Manufacturing	---	---	---	---	---	---	---	---	---
Durables	---	---	---	---	---	---	---	---	---
Nonmanufacturing	-2.2	-2.2	-3.4	-3.4	-3.4	-3.4	-3.4	-4.5	-4.5
Mining	---	---	---	---	---	---	---	---	---
Construction	---	---	---	---	---	---	---	---	---
Transport & P.U.	---	---	---	---	---	---	---	---	---
Fin., Ins. & R.E.	---	---	---	---	---	---	---	---	---
Retail Trade	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
Wholesale Trade	---	---	---	---	---	---	---	---	---
Service	-1.1	-1.1	-1.1	-1.1	-1.1	-2.2	-2.2	-2.2	-2.2



Scenario #3 (cont.)

Derivation of Personal Income (millions of 1983 dollars)

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Total Labor & Proprietors Inc.	-2.2	-2.2	-3.4	-3.4	-3.4	-3.4	-4.5	-4.5	-4.5
Less Social Security	---	---	---	---	---	---	---	---	---
Plus Dividends, Interest, Rent	---	---	---	---	---	---	---	---	---
Plus Transfer Payments	---	---	---	---	---	---	---	---	---
Personal Income	-2.2	-2.2	-2.2	-2.2	-3.4	-3.4	-3.4	-3.4	-3.4
Less Taxes	---	---	---	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
Disposable Income	-1.1	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-3.4
Real Disposable Income	---	---	---	---	---	---	---	---	---



APPENDIX T

SCIENTIFIC NAMES FOR PLANTS





Appendix T. Scientific names for plant species mentioned in text or tables.

Common Name	Scientific Name
American lotus	<u>Nelumbo lutea</u> (Willd.) Pers.
Arrowhead	<u>Sagittaria latifolia</u>
Ash	<u>Fraxinus</u> spp.
Basswood	<u>Tilia americana</u> L.
Black cherry	<u>Prunus serotina</u> Ehrh.
Black locust	<u>Robinia pseudoacacia</u> L.
Boltonia	<u>Boltonia asteroides</u> var. <u>decurrens</u>
Box elder	<u>Acer negundo</u> L.
Buttonbush	<u>Cephalanthus occidentalis</u> L.
Buckwheat	<u>Fagopyrum esculentum</u> Moench.
Cattail	<u>Typha latifolia</u> L.
Coontail	<u>Ceratophyllum demersum</u> L.
Cottonwood	<u>Populus deltoides</u> Marsh.
Corn	<u>Zea mays</u>
Dogwood, alternate leaved	<u>Cornus alternifolia</u> L.f.
Dogwood, red-twig	<u>C. stolonifera</u> Michx.
Duckweed	<u>Spirodela polyrrhiza</u> (L.) Schleiden.
Elm	<u>Ulmus</u> spp.
Giant smartweed	<u>Polygonum pensylvanicum</u> L.
Hardstem bulrush	<u>Scirpus acutus</u> Muhl.
Honey locust	<u>Gleditsia triacanthos</u> L.
Maple, silver	<u>Acer saccharinum</u> L.
Maple, sugar	<u>Acer saccharum</u> Marsh.
Millet	<u>Echinochloa crus-galli</u> (L.) Beauv.
Mulberry	<u>Morus</u> spp.
Oak, bur	<u>Quercus macrocarpa</u> Michx.
Oak, pin	<u>Q. palustris</u> Muenchh.
Oak, red	<u>Q. rubra</u> L.
Oak, white	<u>Q. alba</u> L.
Orchis, snowy	<u>Orchis spectabilis</u>
Pecan	<u>Carya illinoensis</u> (Wang.) K. Koch.
Pine	<u>Pinus</u> spp.
Red top	<u>Polygonum punctatum</u> Ell.
Reed canary grass	<u>Phalaris arundinacea</u>
River birch	<u>Betula nigra</u> L.
River bulrush	<u>Scirpus fluviatilis</u> (Torr.) Gray
Sago pondweed	<u>Potamogeton pectinatus</u> L.
Sedge	<u>Carex</u> spp.
Sweet Flag	<u>Acorus calamus</u> L.
Sycamore	<u>Platanus occidentalis</u> L.
Walnut	<u>Juglans</u> spp.
White water lily	<u>Nymphaea tuberosa</u> Paine.
Willow	<u>Salix</u> spp.



APPENDIX U

WATER LEVEL DATA





## APPENDIX U

## WATER LEVEL DATA

Location: T. 6N., R. 5E., S. 21.5a

Relative Land Surface Elevation: 100 ft.

DATE	TIME	WATER LEVEL ELEVATION
4/07/83	2:00 PM	99.19 ft.
4/11/83	6:00 PM	99.22
4/26/83	1:45 PM	98.34
5/01/83	2:05 PM	98.43
5/05/83	3:00 PM	98.23

Location: T. 6N., R. 5E., S. 21.4a

Relative Land Surface Elevation: 93.08 ft.

DATE	TIME	WATER LEVEL ELEVATION
4/07/83	2:15 PM	93.84 ft.
4/11/83	5:30 PM	95.93
4/26/83	1:45 PM	92.81
5/01/83	1:55 PM	92.91
5/05/83	2:50 PM	92.95

Location T. 6N., R. 5E., S. 21.4a

Relative Land Surface Elevation: 97.58 ft.

DATE	TIME	WATER LEVEL ELEVATION
4/26/83	1:50 PM	96.97 ft.
5/01/83	2:00 PM	96.93
5/05/83	2:55 PM	96.92



APPENDIX V

AQUIFER HYDRAULIC CONDUCTIVITY





Abandoned Homestead Well

April 11, 1983

T.6N, R.5E, S.21.3f

MEASUREMENTS

<u>Date</u>	<u>Hour</u>	<u>Time</u> <u>(Min)</u>	Depth to Water <u>(ft)</u>	Draw- down <u>(ft)</u>	Piez. tube <u>(ft)</u>	Pump rate <u>(gpm)</u>	<u>Remarks</u>
4/11/83	11:57AM	-----	3.55				
	12:18	-----	3.55				Static
START							
	1:20PM	0					
	1:27	7	3.96	0.41		4.1	
	1:30	10	4.20	0.65			
	1:32	12	4.38	0.83		4.1	
	1:34	14	4.55	1.00			
	1:36	16	4.72	1.17			
	1:38	18	4.87	1.32		3.9	
	1:40	20	5.01	1.46		3.8	
	1:45	25	5.38	1.73		3.7	
	1:50	30	5.73	2.18			
	1:55	35	6.05	2.50		3.7-	
	2:00	40	6.38	2.83			
	2:05	45	6.71	3.16		3.7+	
	2:11	51	7.06	3.51			
	2:15	55	7.33	3.78		3.6-	
	2:21	61	7.69	4.14		2.6	
	2:25	65	7.82	4.27		2.4	
	2:30	70	7.97	4.42			Pump off/ Recovery
	2:31	1	7.96				
	2:32	2	7.94				

<u>Date</u>	<u>Hour</u>	<u>Time</u> <u>(Min)</u>	Depth to Water <u>(ft)</u>	Draw- down <u>(ft)</u>	Piez. tube <u>(ft)</u>	Pump rate <u>(gpm)</u>	<u>Remarks</u>
	2:33:35	3:35	7.91				
	2:34:10	4:10	7.90				
	2:35	5	7.88				
	2:36	6	7.86				
	2:37	7	7.84				
	2:38	8	7.82				
	2:39	9	7.81				
	2:40	10	7.79				
	2:42	12	7.74				
	2:44	14	7.72				
	2:46	16	7.69				
	2:48	18	7.64				
	2:50	20	7.61				
	2:55	25	7.52				
	3:00	30	7.44				
	3:06	36	7.34				
	3:10	40	7.28				
	3:15	45	7.20				
	3:20	50	7.12				
	3:25	55	7.06				
	3:30	60	6.98				
	3:40	70	6.85				
	3:50	80	6.72				
4/11/83	4:01PM	91	6.57				
	4:10	100	6.47				
	6:15	225	5.39				
	8:10	340	4.86				

APPENDIX W

LETTERS COMMENTING ON THE DRAFT LAND REPORT

COMMENTORS

Richard C. Anderson

Audubon Council of Illinois

Christopher Bronny

Citizens for the Preservation of Knox County

Eagle Valley Environmentalists

Freeman United Coal Company

Pam Fortado Gibson

Kenneth Grigsby

Illinois Association for the Advancement of Archaeology

Illinois Audubon Society

Illinois Department of Conservation

Illinois Department of Transportation

Illinois River Valley Association

James R. Kirk

Save Rice Lake Area Association

Southern Illinois Audubon Society

Glennon V. Tockstein

Tri-County Regional Plan Commission

Mildred A. Williams





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ENR  
DEPARTMENT OF GEOLOGY

August 10, 1983

Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams Street, Room 300  
Springfield, IL 62706

Friends:

I wish to submit the following comments on the draft of the Illinois Land Report for Rice Lake Conservation Area:

1. In the Summary of Findings, pages 29 & 30, reference is made to 2.3 million tons of processing wastes containing highly toxic materials low in plant nutrients which will be generated by mining at RLCA. (See page XI-6 for estimated quantities of zinc and cadmium.) Whereas the statement is made that this will require "environmentally sound disposal techniques," no specifics are included regarding how this disposal will be accomplished. Disposal is of critical importance at Rice Lake because of its floodplain location and potential for degrading both surface and ground water. Although the coal may be cleaned and the wastes disposed of at the Buckhart Mine, the disposal of wastes generated and accumulated at the RLCA is not addressed.
2. The third paragraph on page 37 of the Summary of Findings states that "since Rice Lake is not a source for water supply in the area, allegations suggesting that its loss will adversely affect regional surface water supplies appear to be unjustified." Similar statements are also made on pages 48, XI-8, and XI-26. Although Rice Lake itself is not used for water supply, it is hydrologically connected with the surface water of the Illinois River and nearby shallow ground water aquifers which are used for water supply. Mining will probably not affect the quantity of water available, but it will surely affect its quality.
3. At the bottom of page 37 of the Summary of Findings it is stated that "the proposed levee and coal mining operation in Rice Lake will have little or no effect on wetland habitat outside the levee," and at the top of page 38, "that a reclaimed Rice Lake will be better able to meet IDOC management goals than the existing lake." A similar statement is also made on page XI-28. Surely dewatering of the mine and disposal of this water outside the levee will affect the surrounding wetland habitat, particularly in view of the fact that during mining this water will carry large dissolved and particulate loads.
4. In the first full paragraph on page 48 of the Summary of Findings, the shallow ground water is described as "very hard, with a high iron content." This is substantiated by the data of Table V-1, page V-15. The report does not address the question whether this high iron, and high sulfate, content might be a result of prior mining upstream at Banner March.

5. The quality of ground water in the RLCA is compared with that of Banner Marsh on page 49 of the Summary of Findings and on page XI-19. I was unable to find the data upon which these comparisons were made. Table V-1 contains no information on water quality in Banner Marsh. Table XI-1 (page XI-30) does not show the location of Sunspot Lakes. They do not appear to be in Banner Marsh.
6. At the bottom of page 52 and continuing on to page 53 of the Summary of Findings the quality of the water in Rice Lake is considered to depend on whether the lake and the Illinois River are independent. A similar statement is also made on page XI-28 and XI-29. This independence is strictly a matter of degree because exchange of water between the lake and the river will occur, if not as surface, then as subsurface flow, and this exchange will be in both directions depending on the stage of the river. Whereas exchange will dilute, hence improve, the mineralized water of the reconstituted Rice Lake, it will degrade the quality of Illinois River water.
7. The effect of withdrawal of 4500 acres of floodplain storage on flood stages of the Illinois River is considered on pages 60 and 61 of the Summary of Findings and on pages XI-23, XI-25 and XI-27. It is concluded that the effect would be to increase the stage of the 10-year flood by 0.14 foot. What effect would it have on the 100-year flood? Though 0.14 foot may be minimal, it contributes to an accumulative effect of other levees so that the total effect becomes significant.
8. On page 61 of the Summary of Findings, page III-57, page XI-8, and page XI-16 reference is made to "sand and gravel deposits that are hydraulically connected with lakes or with the river outside the mine area" which "might yield significant volumes of water to the mine pit." This is a potentially serious problem, the solution of which is not adequately considered in the Land Report.
9. "Springs and seeps which appear along the bluff..., in the absence of evidence to the contrary, are assumed to be the result of seasonal surface drainage," (bottom of page V-16). A related statement is made on page V-22, "the small tributaries flowing into Rice Lake are most often dry." According to local residents, many of these springs and seeps, and at least one of the small streams draining the bluff (Baxter Creek), are perennial, suggesting that they are fed by more significant ground water sources than those supplied solely by seasonal precipitation. Thus the flow duration curve on page V-23 (figure V-4) may not be typical of this portion of the bluff, perhaps because of the presence of relatively impermeable Pennsylvanian bedrock high in the bluff which inhibits downward movement of water and promotes lateral movement toward the bluff face.
10. "If even a remnant of Duck Island remains, the petition area would remain isolated from the head changes in the river because of the extremely low permeability of the bedrock units" (page XI-16). This statement ignores the high permeability of the thick sand and gravel at the south end of Duck Island.



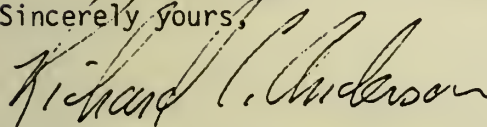
Illinois Department of Energy  
and Natural Resources

Page 3

August 10, 1983

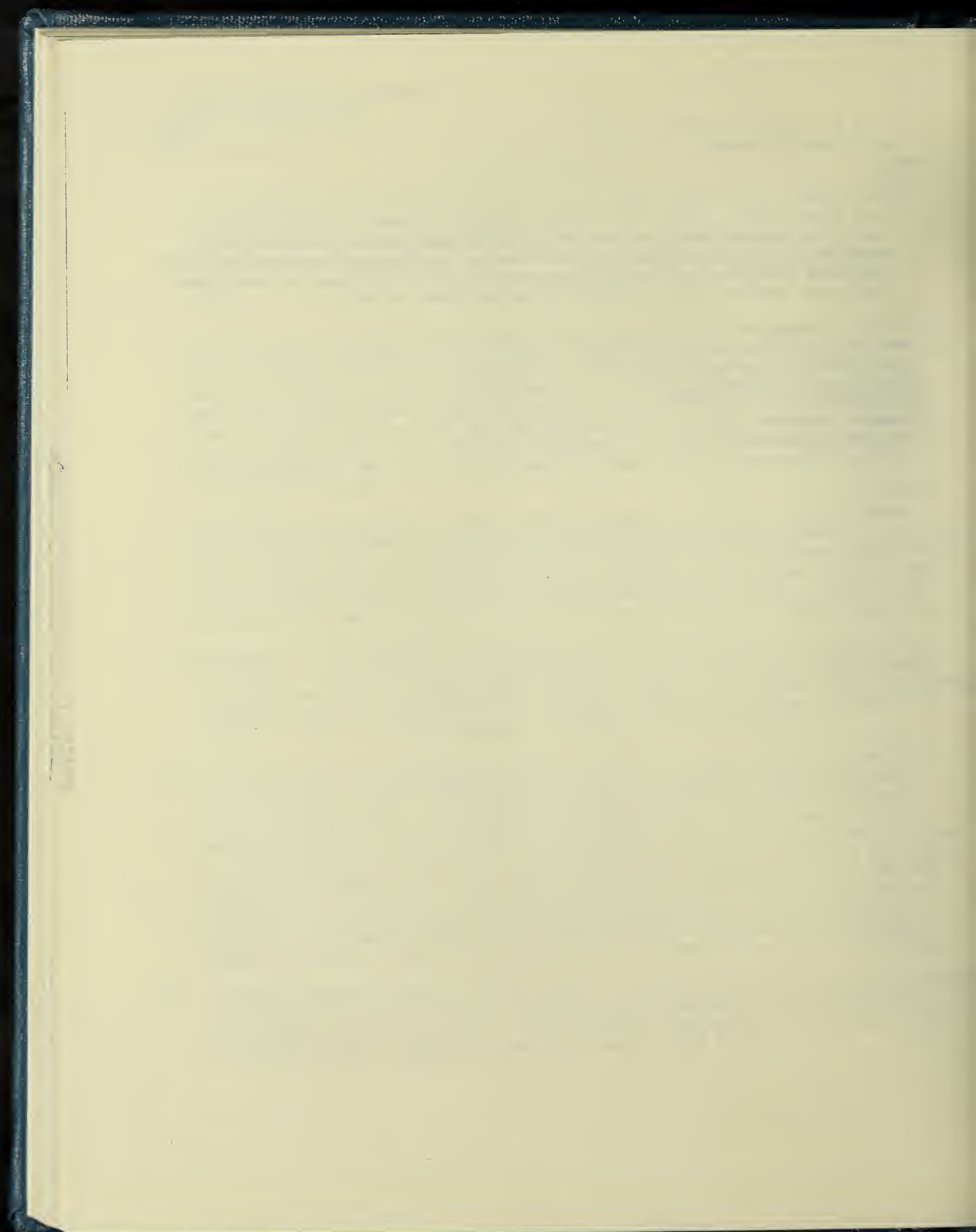
11. One effect of dewatering the mine would be the dewatering of domestic wells along the base of the bluff (pages 52, XI-21). The prospect of deepening these wells and utilizing significantly lower quality and more expensive water from the deeper aquifer is not very attractive for these residents.

Sincerely yours,

A handwritten signature in cursive script, reading "Richard C. Anderson".

Richard C. Anderson  
Professor of Geology

RCA:dlw





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E.N.R.

A COUNCIL OF NATIONAL AUDUBON SOCIETY CHAPTERS

1112 Kensington Ave. 10 PM 1:45  
Arlington Heights, IL  
August 8, 1983 CASH SECTION

Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams St., Room 300  
Springfield, Ill 62706

Subject: Comments on draft Illinois Land Report:  
Rice Lake Conservation Area

Gentlemen:

In review of the Draft Land Report for the Rice Lake Conservation Area we find the following areas in need of correction:

1) Section XI

Page 49

Lines 11-15

Delete lines: Although miming and reclamation procedures at Rice Lake probably would differ considerably from those used at Banner Marsh, the two areas have many common features indicating that the most reliable approach to reforestation planning for Rice Lake would be to initiate pilot experiments at Banner Marsh as soon as possible.

Reason for change: Banner Marsh no longer has any resemblance to Rice Lake and is a poorly reclaimed area. Soils are no longer similar nor were they ever similar.

2) Section XI

Page 49

Line 17

Change to read: Prediction of Negative long-term change in the value of the timber resources is justified.

Reason for change: Previous documentation in land report supports this conclusion.

3) Section XI

Page 50

Lines 11-19

Change to read: A well designed and executed reclamation would not result in an overall increase in the value of the area for migratory waterfowl, since recent waterfowl counts as high as 85,000 already tax the area's ability to support such large numbers. This high usage by waterfowl

continued

# Illinois Council of Audubon Society, Inc.

A COUNCIL OF NATIONAL AUDUBON SOCIETY CHAPTERS

CHRYSTIAN COUNTY  
AUDUBON SOCIETY  
Champaign, Ill.

suggests the area already has the ingredients needed to support large numbers of waterfowl and this would be difficult to improve upon by the reclamation after mining.

DUFANE  
AUDUBON SOCIETY  
Whelan

Reason for change: Evidence in Chapter VII Page 30, Lines 4 and 5 of Land Report.

JOHN W. L. S. WELLS  
AUDUBON SOCIETY  
Bloomington

4) Section XI  
Page 50  
Line 20

PAUL W. L. S. WELLS  
AUDUBON SOCIETY  
Bloomington

Change to read: Given relatively clear and stable water levels, Rice Lake again(delete) could be .....

PAUL W. L. S. WELLS  
AUDUBON SOCIETY  
Bloomington

Reason for change: Rice Lake is currently a marsh area as supported by the use of the area by ducks, herons and cormorants.

PAUL W. L. S. WELLS  
AUDUBON SOCIETY  
Bloomington

5) Section XI  
Page 51  
Line 11-14

PAUL W. L. S. WELLS  
AUDUBON SOCIETY  
Bloomington

Change to read: Although remnant forest patches may remain for Wood Duck rearing there will not be water adjacent to these areas and the Wood Ducks will not be willing or able to move their young north through mining area to Round Pond.

PAUL W. L. S. WELLS  
AUDUBON SOCIETY  
Bloomington

Reason for change: Mining disturbances and distance will not permit Wood Ducks to move young from nesting area to open water of Round Pond.

PAUL W. L. S. WELLS  
AUDUBON SOCIETY  
Bloomington

ROUND POND  
AUDUBON SOCIETY  
Bloomington

6) Section XI  
Page 52  
Line 6

SINNERS RD  
AUDUBON SOCIETY  
Bloomington

Change to read: Lowering of the water table to dewater mining areas will render these areas.....

STEPHEN, ON COUNTY  
AUDUBON SOCIETY  
Frostburg

Reason for change: The drying out of these habitats will make them unsuitable for amphibians and reptiles.

THORN CREEK  
AUDUBON SOCIETY  
Park Forest

VERMILION COUNTY  
AUDUBON SOCIETY  
Dan

7) Section XI  
Page 55  
Line 2-5

Change line starting with "If" to read: Post reclamation food conditions for eagles would not improve over present conditions because, as evidenced by their usage, current water conditions and fish populations are favored by Bald Eagles.



continued

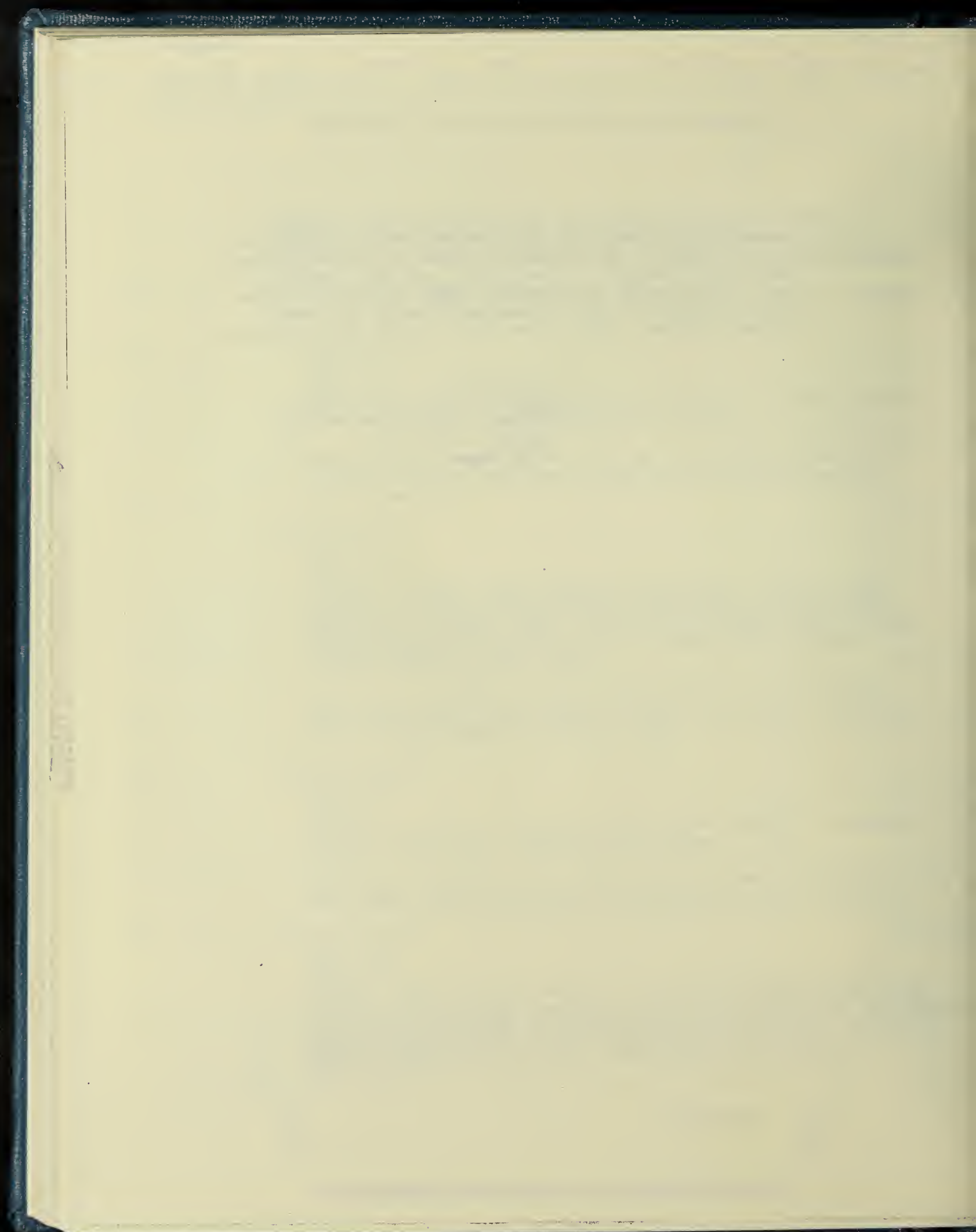
Reason for change: There is no supportive evidence in Land Report, or elsewhere, that a reclaimed Rice Lake would be more to the liking of Bald Eagles. From their usage, evidence is clear they prefer the current habitat. The stress of finding different winter habitat could cause the loss of many Eagles.

Marvin P. Schwartz

Marvin P. Schwartz  
President









Critique of IDENR Land Report pertaining to  
Petition to Declare RLCA Unsuitable for Surface Mining

---

Chapter: VII

Page: VII-7

Paragraph: 2

Line: 3

Currently Reads: "Most aquatic plant beds have been eliminated and marsh plants have been reduced drastically as the result of decreased light penetration and the unconsolidated nature of the lake sediments".

Changed to Read: Most aquatic plant beds have been eliminated and marsh plants have been reduced drastically as the result of fluctuating water levels, decreased light penetration due to the unconsolidated nature of lake sediments, and the heavy application of herbicides used to control aquatic plant growth during the 1950's.

Reason for Change (Rationale) and Substantiating Evidence:

The evidence for "fluctuating water levels" is confirmed by the natural and artificial (man-made) influx of water from the Illinois river to Rice lake. The raising and lowering of Rice lake water levels through the use of levees and culverts by the DOC results in lowered lake levels during late spring, and raised levels during autumn. The purpose of this drawdown and flooding, respectively, is to promote small grain crop production, and to improve hunting in and around the conservation area. A dramatic, sudden rise and fall of water levels (as evidenced by waterfowl hunting enhancement techniques in the spring and fall) could have an adverse effect on native marsh and aquatic plant communities.

The "heavy application of herbicides to control aquatic plant growth during the 1950's" is documented by various individuals (Bellrose at Morton Arboretum, 1981; DOC personnel at a Teoria public hearing in 1981; and eye-witnesses to the event). There were two accountable applications: One was the aerial spraying of the herbicide, and the other method was by direct application of the herbicide into the water from the back of a boat. Apparently, the aquatic vegetation interfered with motor boat use in the Rice lake area. Complaints to the DOC by irritated motor boat users that the aquatic vegetation seriously hampered motor boat performance resulted in the ensuing herbicide application. Unfortunately, the herbicide did not contain itself to the designated channels and target areas. The toxin then proceeded to adversely affect the

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E.N.R.

entire marsh and aquatic plant populations in the Rice lake area. The exact herbicide used has not been identified at this time.

#### Conclusion

Throughout the Biological Resources Chapter (VII) in the Illinois Land Report, numerous references to the conspicuous absence of submerged aquatic vegetation can be traced not only to water management policies practiced by the DOC, but more importantly, to the 1950's herbicide fiasco. Such a profound reduction in aquatic plant growth must be accountable somewhere, and the evidence of herbicide use would substantiate that claim.

Christopher Bronny  
561 N. Prairie  
Galesburg, Illinois 61401  
(309) 342-9759

1

P.R.1-Box 206  
Albion, Ill 61410  
August 10, 1983

Dir. Dept. of Energy & N.R.  
Land Use Committee for Surface Mining

Gentlemen:

I have studied the DDE and  
N.R. Land Report, and submitted  
several comments on that  
Report. I can see why you are  
considering a determination  
of land use suitability on this  
area. There are so many valid  
reasons why it should not be  
mined. The unemployed archeologist  
sites alone would be enough  
to doubt the advisability of  
destroying the area for research.

I explored the area last  
week-end, and was impressed  
with the site being made of it  
by the DDC for citizens of this  
area. On a hot August day  
there was even enough wild



life to make it interesting and  
worth while. If the Consider  
for migration is broken, we  
may lose it entirely.

It is dangerous to  
assess what mining will do  
when we do not have a mining  
plan. I can only judge by what  
has been done previously in  
reclamation, and it does not  
give me much encourage-  
ment for that area.

Sincerely,

Allen Pease



Critique of IDE and NR Report Pertaining to Petition to Declare  
RCLA Unsuitable for Surface Mining

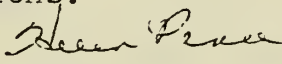
Chapter IA.-page 4

"The Land Report also addresses all of the allegations in the petition and will document the quality and quantity of existing resources in both the petition area and in the surrounding region. It also examines how these resources might change in the future under two conditions: 1) mining does not occur or 2) mining does occur in the petition area."

Omission in the Land Report:

- 1) The Orendorf site, a large temple town, overlooked Lake Rice had been strip mined, and is gone.
- 2) Mining of Lake Rice would destroy the many possible sites for further exploration in this region.

These possible sites for exploration are listed, with evidence which suggests earlier civilizations.

  
Helen Pence, CPKC Board  
Abingdon, IL

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Critique of IDE and NR Report Pertaining to Petition to  
Declare RCLA Unsuitable for Surface Mining

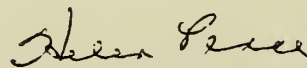
Chapter XI-Page 9 Geologic Hazards

. . . Second, sand and gravel deposits that are hydraulically connected with lakes or with the river outside the mine area might yield significant volumes of water to the mine pit. This could affect the stability of a levee which crosses such a deposit if the difference in water levels across the levee is large . . . This potential difficulty could be mitigated by moving the mine boundary and levee to an area not underlain by gravel or by designating an engineered solution to the problem."

Conclusion:

The problem is stated, but either solution for construction of the levee is not outlined. Obviously, the location of the levee as presented is not feasible. Either solution listed above would change conditions in the area, which means we do not know what we are being asked to respond to.

Therefore, the land report is incomplete and irrelevant, and more work is needed before we can respond in a meaningful manner.

  
Helen Pence, CPKC Board  
Abingdon, Il

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**E. N. R.**

Critique of IDE and NR Report Pertaining to Petition to Declare  
RCLA Unsuitable for Surface Mining

Summary of Findings:

P. 23--"Although it is a possibility, there is no geologic or hydraulic evidence presently available to support the contention that these springs and seeps are perennial and are fed by some source of water other than surface drainage."

Omission in the Report:

A field investigation of these streams would be the best and most scientific way to check for evidence. It could be done through the windshield of a car, and would be very simple to do.

In this August of 1983, one of the most prolonged drought periods in recent years, many of these streams were still running. This could not be surface runoff.

The report is inconclusive at best.

*Helen Pence*

Helen Pence, CPKC Board  
Abingdon, IL

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AUG 12 1983

**E.N.R.**



Critique of IDE and Nr Report Pertaining to Petition to Declare  
RCLA Unsuitable for Surface Mining

Summary of Findings

P. 22--"Since the post-mining area will be enclosed by levees high enough to protect it from the 100-year flood, proper control structures make it likely that a reclaimed Rice Lake will be better able to meet the DOC management goals than the existing lake."

OMISSION IN THE REPORT:

In what way will the DOC management goals be improved?

Rice Lake is already providing food and habitat for wild life under DOC management.

P. 19--"Rice Lake is presently the only permit duck hunting area in the state open to the public (DOC 1983). During the period 1975-1982, the RCLA has annually hosted an average of 1,1517 hunters who bagged an average of 1,363 waterfowl per year. . . Both sport and commercial fishing occur at RCLA."

DOC management practices would appear to be successful at the present time.

The Land Report has not documented the above statement in any way, so it is entirely without supporting evidence.

*Helen Pence*

Helen Pence, CPKC Board

Abingdon, IL

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E.N.R.



Critique of IDE and NR Report Pertaining to Petition to Declare  
RCLL Unsuited for Surface Mining

Ch. XI-6 Non-Coal Resources

Sand and Gravel

. . . "the mine plan could be implemented to maximize the time that the existing gravel operation has to operate, delaying the mining of the sand and gravel areas."

Omission in the report:

In the first place we do not have a mine plan to address, so anything said here is hypothetical. In any mine plan, the industry is lost, and the impact on the community in terms of services and construction materials is not addressed, and, in terms of jobs lost, the meaning of this to the community.

*Helen Pence*

Helen Pence, CPKC Board  
Abingdon, IL

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E.N.R.

Critique of IDE and NR Report Pertaining to Petition to Declare  
RCLA Unsuitable for Surface Mining

Summary of Findings--page 26

"Although no endangered or threatened species of mammals are known from Rice Lake." . . .

Ch VII page 39

. . . "three species are potential inhabitants of the area and cannot be regarded as absent without further study . . . the more mature floodplain forests of RL provide critical summer habitat for the Indiana bat, including both maternity roost sites and foraging areas. However, no studies of the bat fauna of RL have been conducted. Consequently the INHS will conduct a study at RL during the 1983 breeding season. With its large acreage of wooded shoreline and bottomland forest, the RCLA, in combination with adjacent land, provides many of the habitat requirements of the river otter and the bobcat, both state threatened mammals. Neither species, however, has been documented in the area in recent years."

Conclusions:

This would indicate that these have been found in the area in the past, and have been known here. Appendix F lists these as "known or potential" occurrence at RCLA. Therefore, the above statement has been made without consideration of past evidence, and without research into present population of endan-

gered species.  
**RECEIVED**

AUG 12 1983

**E.N.R.**

*Helen Pence*

Helen Pence

Abingdon, IL

# Apple Valley Environmentalists, Inc.

Post Office: Box 155, Apple River, IL 61001

Phone: (815) 594-2259



August 9, 1983

Illinois Department of Energy and  
Natural Resources  
Land Unsuitable for Mining Program  
325 W. Adams Street, Room 300  
Springfield, IL 62706

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AUG 15 1983

E.N.R.

Dear Sirs:

I appreciated receiving a copy of your draft Illinois Land Report: Rice Lake Conservation Area for public comment. I am commenting primarily on the biological section as that is the section over which I have the most knowledge. Basically, I am going to comment on deficiencies and inconsistencies of this draft copy.

On page VI-36 under Wildlife Habitat Suitability you state that Table VI-10 rates the RLCA for general habitat potential. What is your source of information for this table? Is this a standard table of soil types or something you developed?

On page VII-9 you state that the lake depth has been increased in 1945, 1953 and 1961. Then you state what effect this has had on the plant life. Because DOC draws down the water level every summer, the time of year when Bellrose's study was conducted in 1979, could affect his results.

On page VII-10 it is stated that the secluded nature of Round Pond and Fiddler's Slough provides good foraging conditions for herons and eagles. I challenge this statement concerning eagles. These ponds are the first to freeze over and thus, are not able to be used by a majority of eagles as they are primarily in the area during the winter months. What studies have been done to document the eagles' use of these areas? If any had been conducted, it would have recorded far more eagles in the RLCA than you state elsewhere in this report.

From your statements on page VII-10 and VII-11, it seems there appears to be a difference of opinion as to the amount of vegetation in Rice Lake according to the two studies you quote (Paveglis 1979 and Bellrose et al. 1979).

On page VII-11 you state "no biological studies appear to have been conducted on the shrub swamps of the RLCA." On page VII-20 it is stated a DOC sponsored bird study was conducted in June of 1983. On page VII-39 the report states "INHS will conduct a study to investigate the presence of the Indiana bat at Rice Lake during the 1983 breeding season." On VII-43 you state that "a systematic winter study is needed in addition to the breeding bird survey." The results of these studies should be considered in the final report. How is this going to be possible?

-- see page 2



August 9, 1987

Page 2

When you discuss the use of the area by the only federally endangered species, the bald eagle, there is no recommendation for an indepth study of the eagle use of the area. Why not? The existing data which you quote is very limited and misleading. For the public hearing, I will present evidence which shows that Rice Lake is important to as many as 75-80 eagles foraging along the Illinois River, and several of its back water lakes and that we know of at least three (3) nighttime roosts within the RLCA. You have available signed affidavits from DOC personnel stating they have seen far more than the misleading 20 eagles stated in your report on page VII 40.

We also have a signed affidavit from retired DOC personnel that bald eagles have nested at Rice Lake for many years in the past. Thus, your statement that eagles were first observed at Rice Lake in 1973 is very misleading. You state that the eagle use is increasing. Perhaps only observations are increasing and no attempt was ever made to determine eagle use of the area in the past.

On page VII-46 it is stated that "the area used by the eagles (on the north end) as a communal roosting site is being considered for inclusion in the Illinois Natural Areas Inventory (Mickelson - 1983)". And on page XI-51 you stated that "the central and southern portions of the area would not be mined." What, pray tell, portion of the area will be mined?

On page VII-48 it is stated that, "because it is covered with a productive community of green plants which is accumulating organic matter, Rice Lake, in contrast to the cornbelt in general, serves as a sink for carbon." This is quite a contrast to your statements from Bellrose on page VII-9.

Be careful of how you put your tongue in your cheek as you do on page XI-46 with the following statement - you are liable to bite it off. "Furthermore, productivity of existing floodplain tree would be expected to decline because periodic flooding has a beneficial effect on the growth rate of tree species adapted to the floodplain environment (Odum 1979). As species better adapted to post mining conditions become established, productivity probably would be restored." What species could be adapted to both post mining conditions and flood conditions at the same time?

You are biting your tongue again on page XI-49 with your statement, "If reclamation steps were well planned and executed, the value of the reclamation timber resource could equal or exceed that of the present forest." Then you go on to state, "Although mining and reclamation procedures at Rice Lake probably would differ considerably from those used at Banner Marsh." Anyone two years old or older can see that Banner Marsh is not supporting any type of a forest let alone one which has a value equal to or greater than the present forest.

On page XL-49 it is stated that, "Mining would eliminate all of the waterfowl habitat in the RLCA." On page VII-30 it was stated that 40-85,000 waterfowl may use the area in a single day. I cannot understand how you can bite your tongue so hard as you do with the statement, "A well designed and executed reclamation plan could, in time, result in an overall increase in the value of the area for migratory waterfowl." Perhaps the construction of a levee and no mining would enhance the area far more than a "well designed reclamation plan" ever could.



Illinois Department of Energy and  
Natural Resources  
August 9, 1983  
Page 3

I believe your whole biological assessment of the mining at Rice Lake can be summed up with your last paragraph on page XI-51. Once Banner Marsh has been reclaimed to produce better habitat than Rice Lake, then we can consider mining Rice Lake - but not one day before then.

On page XI-52 you state, "Reclamation of the site to a wetland state should provide suitable habitat for many reptiles and amphibians." But what do these animals do until that time? Eighty to one-hundred years from now, some species may not even be alive in this area to use it.

I do not understand your basis for your statement on XI-53 "Department of Conservation personnel have the expertise for specifying desirable aquatic habitat types, stocking appropriate species, and managing a sport fishery at the site" when they are not able to improve the present sport fishing at Rice Lake as detailed on pages VII-33 & 34.

What facts do you have on which you base the statement on page XI-55 that "If increased water clarity and fish population levels were achieved, post reclamation food conditions for eagles could be improved over the present situation." There is no area that has been so managed, or a study which has been conducted, which will substantiate this claim.

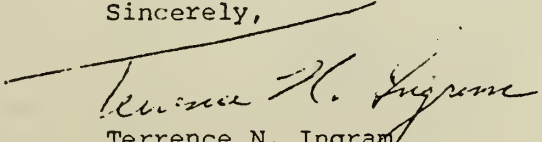
There is no area where artificial roosts have been constructed to provide replacements for preferred diurnal foraging perches as stated on page XI-55. These unsubstantiated statements shouldn't even be considered as possibilities.

In conclusion, I feel that the total sum of the biological effects of the proposed strip mine should lead you to a much stronger statement than, "the loss of habitat during the mining and reclamation periods would tend to counter-balance the predicted improvement." The facts speak for themselves - the RLCA was purchased for and is being managed for waterfowl. Destruction of this habitat through mining would have a devastating effect on many species which presently find their life requirement in the RLCA and are enjoyed by many people, either fishing, hunting, bird watching or conducting nature studies. This long-term destruction outweighs by far the short term economic gain for a few.

I will be anxious to see the final report and see the addition of the various studies that are or have been conducted on the RLCA.

Thank you for the opportunity to present my comments on this draft report.

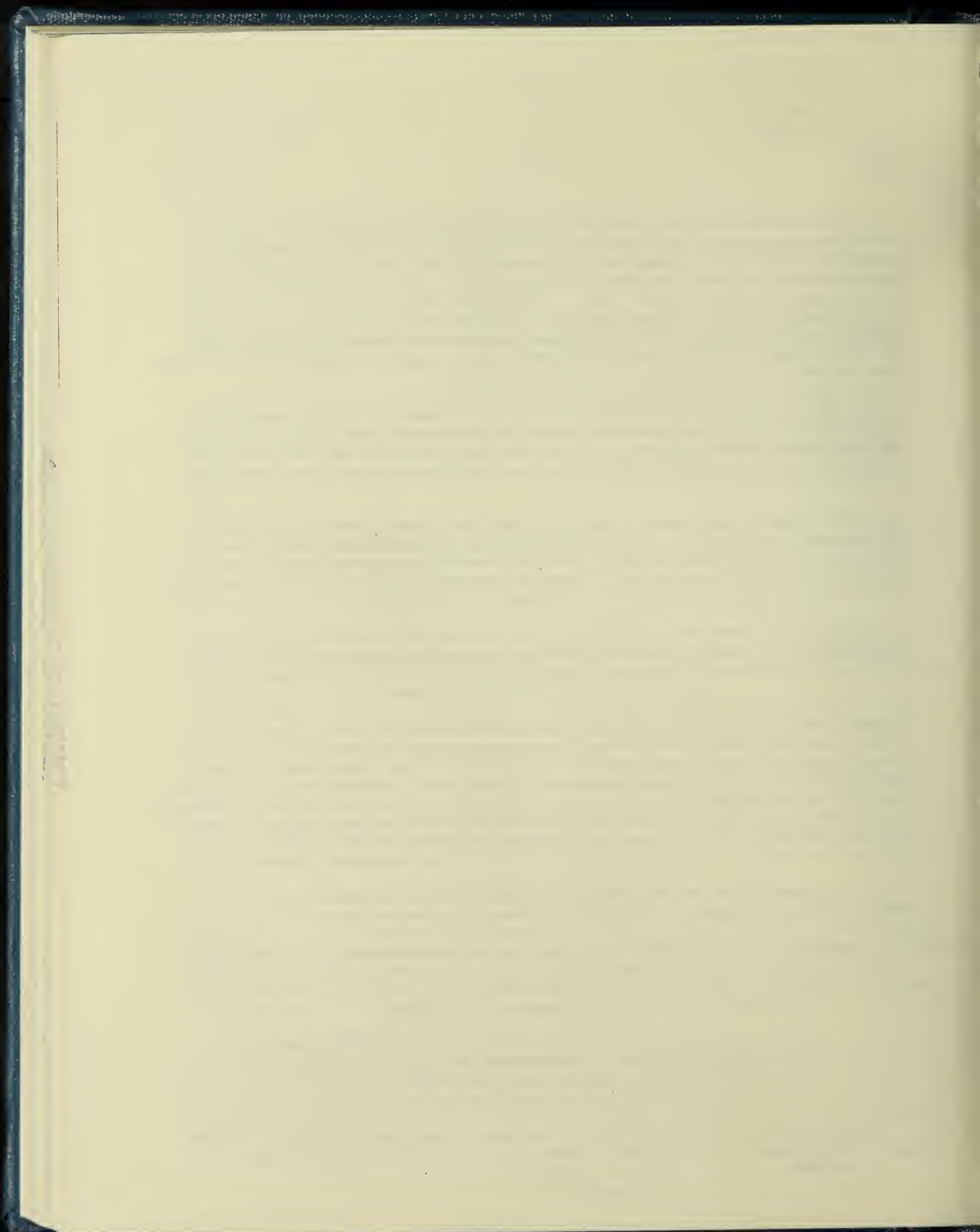
Sincerely,

  
Terrence N. Ingram  
Executive Director

TNI:ava

c/c John Grigsby  
Jim Engel

Al Mickelson  
Marvin Schwartz



**FREEMAN UNITED COAL MINING COMPANY**

DIVISION OF MATERIAL SERVICE CORPORATION  
P.O. BOX 1587 · 123 SOUTH 10TH STREET · MT VERNON, ILLINOIS 62864 · 818/244-5252

**RECEIVED**  
AUG 15 1983

**E.N.R.**

August 12, 1983

Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
325 West Adams Street, Room 300  
Springfield, Illinois 62706

Dear Sir:

In reviewing the Draft Illinois Land Report: Rice Lake Conservation Area, I would like to commend the Illinois Department of Energy and Natural Resources for the quality of work involved in the preparation of this report. However, I would like to make a few comments which relate to Freeman United Coal Mining Company's proposal to the Illinois Department of Conservation (DOC) to mine the Rice Lake Area.

1. The report does not assess the immediate contribution to the natural resources and recreational potential of the area gained by the resulting control of an additional 1764 acres (Fulton and Peoria Counties) in the Banner Marsh Area by the DOC, and how this might offset any possible short term losses by mining within the Rice Lake Conservation Area (RLCA). (Note that this acreage is incorrectly described as 338 acres on Page 7 of the summary.)
2. Our proposal would also involve transferring to the DOC after mining an additional 2,382 acres contiguous to the present 2,694 acre RLCA. The future value of a greatly expanded RLCA to the wildlife resources and recreational needs within this area has not been assessed in the draft report. The DOC acquires Banner Marsh and Rice Lake, which becomes an integral resource management unit of approximately 10,000 acres.
3. As stated on Page 29 of the summary, coal mining at Rice Lake would produce an estimated 2.3 million tons of processing wastes. In our proposal to the DOC (as noted on Page 5 of Chapter XI), the coal would be processed and the refuse disposed of by burying and covering with non-acid producing material at our Buckheart Mine facilities outside of the RLCA. Given this assumption, then the statement (Page 49 of the summary) that the hypothetical reclaimed RLCA is assumed to be hydrologically similar to the Banner Mine Area probably will not be applicable especially as to water quality. The assumed slight decrease in alkalinity, as a result of buffering acid drainage (Page 49 of the summary) and the pure speculation that concentrations of some trace metals, probably lead and



cadmium, would exceed recommended limits (Page 50 of the summary) would probably be mitigated. It should also be noted that the Illinois EPA tested for lead at the Banner Mine in 1976 and found that the concentration was below their level of detection.

4. In discussing the recoverable reserves within a sixty mile radius of Rice Lake, the ENR report states "within a relevant six county region there is about 600 million to two billion tons of other surface mineable coal resources with high development potential". These projections were made from ISGS Circular 504, published in 1978. Quoting from Page 2 of Circular 504, "This report is an overview and should be used only as a guide to more detailed investigation for specific areas". Almost all of the undeveloped blocks of "high development potential" are based on insufficient exploration data to outline proven economically strippable deposits. Also, many limiting factors to strip mining could obviously not be assessed in such a state-wide overview.

The strippable reserves for this six county area were mapped in the early 1960's and are influenced (including the "high development potential" resources) only by the coal data available to the ISGS at that time. Since the time these reserves were mapped, most all of the present economically proven strippable Springfield (No.5) Coal has been exhausted. In addition, the Herrin (No.6) Coal has been determined by the coal operators in this area to be uneconomical at the present time due to the large amount of reject material associated with this seam.

Therefore, increased attention in recent years has been given to the Colchester (No.2) Coal, resulting in additional exploration data which has not been utilized by the ISGS in its strippable reserve determination. Excluding reserves already controlled by coal companies, all the remaining blocks of strippable No. 2 Coal with "high development potential" for which we have additional exploration data, were found to be less than adequate for present mining. Substantial portions of the areas projected to contain No. 2 Coal at depths of less than 75 feet were found to be barren due to the occurrence of thicker than anticipated unconsolidated surficial (drift) deposits resulting in erosion of the coal. Therefore, excessive stripping ratios (due in part to variance in the projected elevation of the coal) and inadequate quantities of coal were found.



Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
August 12, 1983  
Page 3

Several of the outlined strippable blocks consist of areas of the No. 5 and No. 6 Coals abandoned by Consolidation Coal Company and Midland Coal Company; also, Amax Coal Company has announced its intention to suspend operations in the No. 2 Coal in Fulton County. These actions certainly cast doubt as to the "high development potential" of these reserves.

After reviewing the complete report, we feel the content is supportative of our proposal to mine the Rice Lake Area and is not in conflict with public interest.

Sincerely,

A handwritten signature in cursive script, appearing to read "M. V. Harrell".

M. V. Harrell  
Senior Vice President

MVH:ld



Regarding: Land Report (Rice Lake)  
Illinois Dept. of ENR  
Lands Unsuitable for Mining  
325 W. Adams, Room 300  
Springfield, Illinois 62706

Pam Fortado Gibson  
866 Doolin Ave.  
Jacksonville, Illinois 62650

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AUG 15 1983

E.N.R.

(VIIC) Wildlife - Species/Habitat Relationships

The report states: " Because of the large number of species which occur in the petition area and the small amount of information available on many of these, it is impractical to assess existing resources or to predict how these resources will change on a species by species basis."

The above statement is inaccurate; a great deal of information is readily available to any competent researcher, both historical information, local collections, museum specimens and current notes of species documentation that contain documentation for all seasons. Both government agency and private bird documentation is available.

Without at least a primary assessment of wildlife species, one cannot possibly ascertain the unsuitability of mineral extraction from this area. Thus in my opinion, ENR has failed to present the full wildlife picture of this public owned acreage.

(VII-20) Birds:

This section is in gross error by stating, "These birds nest in a colony on the east side of the Illinois River approximately 2 miles from the the petition area."

The statement refers to mixed herons. Extensive documentation exists for heron nesting immediately in the Rice Lake Conservation area historically, found in Graber and Graber, ~~ENR~~ <sup>ENR</sup>. Black Crown Night Heron (*Nycticorax nycticorax*) is a documented nester for the Rice Lake Conservation area, CURRENTLY with multiple observers. It is easily deemed probable that this area will be extensively used for nesting by ALL heron species (AS IT HAS IN THE PAST) as the herons population cycles continue and their nest sites are changed AS PROVEN IN THE PAST FOR THIS SAME AREA.

(VII-20) Birds:

The study states, " More complete and reliable information on the breeding birds of the area will be available after completion of an DOC sponsored study being conducted in June 1983."

It is unfortunate that personnel of ENR should choose to say that information gathered by anyone else would be more "reliable" than the information historically gathered by employees of ENR, namely Drs. Richard and Jean Graber.

It is a noted lack that overlooks the TYPE of DOC sponsored study which should be detailed. BY DOC DEFINITION, the avian survey

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is no more than a "sampling method" for comparative use. The guidelines for this specific DOC sponsored survey are <sup>rigid</sup> and restricted. This survey began by date, AFTER NESTING OF IMPORTANT RAPTORS AND ENDED BEFORE FLEDGING OF ENDANGERED SPECIES and does not incorporate the vital function of both spring, fall and winter use by birds, endangered, threatened or even uncommon species. This same DOC sponsored survey does NOT specifically allow for extensive time in nest documentation or even allow for full coverage of the 2500+ acres of the Rice Lake Conservation area because it deals with specific observation points.

I object that a mere "sampling method" would be employed as "more complete and reliable information" to extensive studies available within the ENR (Grabers) with absolutely no effort to obtain or use other information and studies available in the private and public sector.

(VII-30 - third paragraph:

The report states, " Wood Ducks are the only waterfowl which regularly breed at Rice Lake (Emerick 1982).

Again, this statement is in error, one must suppose that Emerick DID NOT CONDUCT AN EXTENSIVE SURVEY OF THE RICE LAKE AREA PRIOR TO HIS COMMENT or he would have DISCOVERED other "waterfowl" species that REGULARLY BREED in Rice Lake Conservation area. I must assume that members of the Illinois Natural History Survey did not conduct even a primary survey of the area either.

Perhaps ENR does NOT include Mallards, H-Mergansers & B-winged Teal, Waterfowl ? By all other definitions these species are considered waterfowl and have regularly reproduced in the Rice Lake area and OTHERS.

(VII-40) Birds:

The report states: "Eagles were first observed at Rice Lake in autumn during the 1973 sampling and in spring during the 1980 sampling."

Historical reference to Bald Eagles at Rice Lake is easily obtained through local references for at least the past 40 years for both winter and breeding seasons.

One should pay most particular attention to the SPRING sighting by Illinois Natural History Survey; it is quite commonly accepted that wintering Bald Eagles within the Illinois River Valley LEAVE on a mean average , generally accepted by all government agencies on or near the FIRST OF MARCH. Bald Eagles sighted AFTER March 1st are not considered "winter species". In the early days of March, in direct connection to weather patterns, some Bald Eagles could be termed as "late migrants", individuals.

It should be noted that IN the state of Illinois, the breeding season for Bald Eagles, even farther north than Rice Lake actually BEGINS in March.



The glaring omission of discussion regarding possible "nesting" of Bald Eagles at Rice Lake is inexcusable in a competent and unbiased presentation of the natural resources of Rice Lake, historical, current and potentials.

In light of the fact that both the Illinois DOC and the U.S. Fish and Wildlife Service have both been notified that adult Bald Eagles were observed regularly throughout April and May of 1982 and that notification occurred PRIOR to the petition procedure and the Land Report, one must seriously question the efforts made by the ENR staff to present a complete and unbiased data base for the petition area.

PLEASE NOTE: The habitat of the Rice Lake Conservation area does include all known habitat components for use by Bald Eagles during their known nesting season within the Central Zone of Illinois; and that their presence has been observed and documented by multiple observers that include DOC employees, numerous residents of Fulton County, Richard S. Sandburg, W.V. O'Brien, members of the Great Lakes Sierra Chapter and myself.

An ENR publication was dedicated to W.V. O'Brien and that same publication includes verified and accepted sightings by O'Brien, Sandburg and myself AND that same publication is listed in the references used by this very land report. These same observers, ALREADY RECOGNISED BY ENR did observe regularly, adult Bald Eagles during the months of April and May of 1982.

Why was this discussion omitted? It is probably the single most serious deficiency in the entire land report.

STILL on page VII-40

The use of aerial census to determine Bald Eagle numbers in a heavily wooded area is a questionable procedure with relatively few conclusions verified by ground observers. AERIAL TENDS TO BE LOWER TOTALS

The relatively undisturbed part of the petition area being considered for inclusion in the Illinois Natural Areas Inventory:

Considering that even the Illinois DOC have taken steps to legally protect this area from future destruction of many types, this report should indicate how this area would be protected from mining and what steps would eliminate the IMPACT from mining nearby on this rare and unique portion of public land.

In actuality, the steps taken by the DOC to PRESERVE this area should be viewed as surpassing a request to declare the petition area unsuitable for mining.

Regarding the economy and this ridiculous statement: "People could go elsewhere within the state for recreation. They probably will." The statement is so faulty, it really does not deserve detailed comment. However, let it be NOTED that no other public owned acreage contains the same components of recreational values as the Rice Lake Conservation area within a hundred mile drive. To list only a few of these components: IN ONE public property:

1. suitable canoe course during flood season, the ONLY one in the Illinois River Valley.
2. more than 100 herons easily viewed for more than 5 consecutive months.
3. Bald Eagles, easily observed throughout the winter and breeding seasons
4. A large variety of rare bird species easily viewed throughout the year.
5. numerous endangered species (avian) easily observed both winter and summer.
6. large and diverse species of waterfowl easily viewed in flocks
7. numerous bars and shallows for shorebirds in all the appropriate seasons
8. overnight camping
9. easy access by foot and canoe to natural backwater woodlands
- and 10. A unique outdoors experience worth driving hundreds of miles for across or down the entire state.

The potential of Rice Lake as a midwestern drawing card for increased tourism was totally ignored ! In fact, the factual INCREASE of tourism due to publicity of rare bird sightings in the petition area was not even noted.

Page XI-28 Impact ? to Wetlands ?

Incredible that this report would state " Thus, this area will be removed from wetland-backwater lake habitat for the duration of mining." BUT IGNORES THE IMPACTS OF THIS REMOVAL.....WHAT ARE THE IMPACTS OF THIS REMOVAL ????

Page XI-50, AGAIN, the erroneous statement that Wood Ducks are the only breeding waterfowl of Rice Lake !

A question; It is suggested by Emerick that some of the migrants probably will be able to meet their requirements by utilizing adjacent lakes, reservoirs and bottomlands. How did Emerick arrive at this questionable conclusion ? Are the requirements even known for Double-crested Cormorants and many other bird species ? What base does Emerick use for habitat availability+ carrying capacity of what areas ??? Such questionable probabilities have no place in a data base but are only the supposition (without supporting text) of an individual.

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Page XI-55 Endangered and Threatened Species (Birds)

I find it entirely deficient !

Not one word regarding the loss of nesting endangered bird species ! Documentation regarding such is readily obtained. The mere mention of "artificial roosts" without proper reference and text of established success ANYWHERE is unquestionably a piece of far flung theory.....by someone. WHO ?

Notes regarding endangered and threatened bird species of Rice Lake and KNOWN Illinois CURRENT distribution in relation to their historic distribution should be included by SPECIES, individual.

By omitting discussion of each individual species, ENR clearly biases this Land Report by an obvious subtraction of Natural Resource values.

If this is the best information that the combined sources of ENR can produce regarding Endangered and threatened bird species, it is quite clear that additional personnel should be sought !

Because a complete lack of even a check list for this area was not included in this report, values as a natural resource, as a recreational area and as a wildlife area in general cannot be ascertained from this report, for they are all understated !

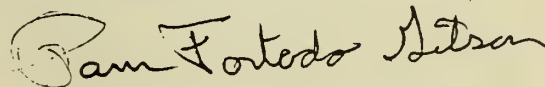
It is sincerely hoped that prior to producing another such document, ENR will acquire staff with avian expertise for the specific production of same !

Those of ENR with avian expertise at this writing obviously did not project many man-hours on the Land Report. Were they even allowed input and why is the avian information so lacking in proportion to other issues ? ALL other issues ?

It is obvious that the entire Land Report was dedicated by hours, pages, paragraph by paragraph to the "SUITABILITY OF MINING RICE" not the "Unsuitability" claimed by the petition. A total of hours for this projection and incidentally, the cost per discussion should be made available to the Illinois public.

In general, regarding avian species, it is my opinion that this report does not clarify the significance overall or individually of rare bird species and is therefore dreadfully biased by this lack.

Pam Fortado Gibson







Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams St. Room 300  
Springfield, Illinois 62706

Subject: Comments on draft Illinois Land Report: Rice Lake Conservation Area.

1. Chapter X. XD, Economic Issues:

The Land report omitted an important economic loss to Fulton County. Within the proposed mining area is 1165 acres of farm land that would be affected. This does not include approximately 600 acres on Duck Island. The perimeter of Rice Lake and Duck Island is subject to flooding, but each year this acreage is in farm production with no substantial loss due to flooding.

The average yeild, bushel per acre of corn in Fulton County 1979- 1981 was 111 bushel. The Average price \$2.50 per bushel. Taking these figures,  $\$2.50 \times 111 \text{ bushels} \times 1165 \text{ acres} \times 15 \text{ years} = \$4,849,312$  that will be lost due to mining.

This problem should be studied more indepth before the final land report is completed.

2. Chapter X Page 49. Paragraph 2.

Currently reads: "If Rice Lake is mined, it is estimated that the State of Illinois could recieve approximately \$13 to \$19 million in sales tax revenue. Fulton County could recieve about \$2 to \$4 million. However, this assumes that 100% of the Rice Lake coal will be sold in state."

Delete: The above sentences.

Reason for change: The Rice Lake report should be based on facts, research, and data available. In your report it is stated that 65%-68% of coal will be sold out of state and this is normal for Illinois. Therefore all sales tax revenue that would be received should reflect this data. The land report should not be based on assumptions or possible senarios.

Kenneth Grigsby  
R. R. #3  
Canton, Il. 61520  
(309) 647-1568

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AUG 15 1983

E.N.R.





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AUG 11 1983

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AE. N. R.

ILLINOIS ASSOCIATION FOR ADVANCEMENT OF ARCHAEOLOGY

102 Circle Drive  
Cambridge, IL 61238

August 8, 1983

Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams Street, Room 300  
Springfield, Illinois 62706

Dear Sirs:

As president of the Illinois Association for Advancement of Archaeology I wish to comment on the contents of the draft Land Report on the Rice Lake Conservation Area. Since our prime concern is the archaeology of the area these comments will be directed at those sections pertaining to the cultural resources of the Rice Lake Conservation Area.

Our members are interested in both preservation and the scientific investigation of important archaeological sites in Illinois. Because of the lack of information on a definite mining plan we feel hampered in an evaluation of the overall effect to the archaeology of the surrounding region if the Rice Lake Conservation Area should be declared suitable for surface mining. The Report deals only with the State property but we are concerned as well with the effect on the archaeology of contiguous properties now in private ownership.

Taken as a whole, the resource person who developed the cultural resource sections of the Rice Lake Lands Report is to be commended for being as thorough and objective given the constraints of time allotted to examine the site and the limitation of being able to comment only on State property.

Chapter VIII, Page 5, Paragraphs 2&3 indicate that Site F-39 is important archaeologically but Chapter VIII, Page 6, Paragraph 1, Lines 5 & 6 reads, "Unfortunately, the present location of this collection of materials is unknown, so further appraisal is impossible." Since the site includes earthen mounds and a village site, there is need for further scientific investigation of Site F-39.

Chapter VIII, Pages 6 & 7 lists Site F-40 and indicates that it is a multi-component site showing both Archaic and Woodland manifestations yet the record is incomplete as to where the site fits into these time frames which span 9,000 years of pre-history. Further study and evaluation is needed for Site F-40.

Chapter VIII, Page 7, Paragraphs 2 & 3 deals with Site F-284 and states that "there is no record of the nature of the artifacts found." Paragraph 3, Lines 5 & 6 States "that two Paleo-Indian projectile points were found near F-284." Paleo-Indian cultural period is not well defined except to a time period of 10,000 to 12,000 years ago. The antiquity of F-284 should call for further investigation as stated in Paragraph 4, Lines 3 & 4 which reads "More extensive investigations will be required to assess adequately F-284."





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ILLINOIS ASSOCIATION FOR ADVANCEMENT OF ARCHAEOLOGY

Land Report RLCA page 2

Chapter VIII, Page 7, Paragraph 5, tells that the limited survey that was conducted disclosed three more prehistoric sites and illustrates again the need for further investigation.

Chapter VIII, Page 12, Paragraph 3, Lines 8,9 & 10 states, "Further coring will be needed to provide more definitive conclusions about these valley margin deposits, but it is likely that buried sites are present along the valley margin."

Chapter VIII, Page 13, Paragraph 1, Lines 3 through 7 states, "The interface between valley margin slope wash deposits and floodplain deposits has a particularly high potential for buried sites. The belt of valley margin/floodplain deposits to the west of Rice Lake is a high potential area."

Chapter VIII, Page 15, Paragraph 2 discusses historic cultural resources and sites and says, "There are no historic sites recorded in Illinois master site file for RLCA. However, limited site reconnaissance indicates that there are three historic scatters along the western margin of Duck Island and documentary searches of the area indicates that there are five potential historic sites."

Chapter VIII, Page 16, Paragraph 3, states, "As in the case with prehistoric resources, the data base for historic sites is probably incomplete and under represents the actual number of historic sites."

A thorough reading of Chapter XI, Pages 58 & 59 reinforces the necessity of more complete survey of the RLCA before the impact of mining on the socioeconomic resources can be evaluated. Mining does not damage but totally destroys prehistoric and historic sites. In Fulton County this destruction has been an ongoing process for years leading to the destruction of hundreds of sites. The public deserves not only to have scientific study of these resources but action must be taken to preserve our cultural heritage for future generations.

Most sincerely,

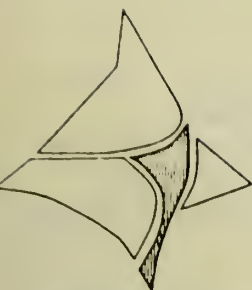
Eugene M. Gray, President  
Illinois Association for  
Advancement of Archaeology

cc: John Grigsby, SRLAA

102 Circle Drive  
Cambridge, IL 61238

309/937-5840





THE ILLINOIS AUDUBON SOCIETY

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AUG 15 1983

E.N.R.

ESTABLISHED 1897

WARREN R. DEWALT  
EXECUTIVE DIRECTOR

August 13, 1983

Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams Street, Room 300  
Springfield, Illinois 62706

ILLINOIS LAND REPORT-RICE LAKE CONSERVATION AREA

Sirs:

We have completed a review of the draft land report, and are encouraged to see that it strongly supports our major contention--that the mining of Rice Lake will adversely affect wildlife resources by damaging or destroying habitat. Particularly noteworthy are the report's comments on the following:

The bald eagles--mining would eliminate overwintering bald eagles during the mining period, with low likelihood of reestablishment afterward. The roost would be destroyed.

Colonial nesting birds--populations would be vulnerable, and losses probably would not be counterbalanced by reclamation.

Bottomland forests--mining would destroy another of the largely diminished bottomland forests in the Illinois River Valley. Also, the bluff near Rice Lake would most likely be dewatered, subjecting this valuable biological site to drought stress and possible mortality.

Endangered plants--mining would destroy the last remaining and best populations in Illinois of Boltonia asterocedes var decurrens, which is a plant proposed for federal endangered status.

Waterfowl--mining would eliminate all of the waterfowl habitat in the Rice Lake conservation area during the mining period, and the effects on regional waterfowl population levels could not be stated with confidence. Counterbalancing these negative impacts is the proposed reclamation, depending on "a well designed and executed" plan.

August 13, 1983


Page 2

Ecological Diversity--destruction of the soils by surface mining would permanently alter the ecosystem. The diversity of biota now enjoyed in the area would be slow, if ever, in reestablishing itself.

Habitat preservation--(in regard to the draft 1983 Scorp) mining would be incompatible with DOC's goals of habitat and forest preservation, particularly in regard to wetlands and natural areas.

The above are not the only points in the report made in favor of wildlife and against mining, but in our opinion they are overwhelming, and should decide the issue. It is worth repeating that the Rice Lake Conservation Area is not a privately-held property nor is it property in which the surrounding community has any prior economic rights, but is already publically-owned and is dedicated to wildlife and wildlife-oriented recreation under the Department of Conservation. It would seem reasonable, therefore, that wildlife and conservation would be a powerful if not controlling factor in the final decision.

Sincerely,

  
Warren R. Dewalt,  
Executive Director

WRD:jc

Illinois



Department of Conservation

life and land together

LINCOLN TOWER PLAZA • 524 SOUTH SECOND STREET • SPRINGFIELD 62706

CHICAGO OFFICE - ROOM 100, 160 NO. LASALLE 60601

David Kenney, Director • James C. Helfrich, Assistant Director

August 12, 1983

Illinois Department of Energy  
and Natural Resources  
Lands Unsuitable for Mining  
Program  
325 West Adams Street, Room 300  
Springfield, Illinois 62706

RECEIVED

AUG 15 1983

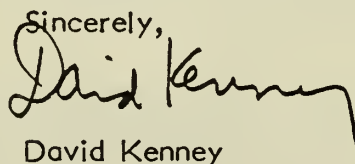
E.N.R.

Dear Sir/Madam:

The legislation which would have authorized the Department of Conservation (DOC) to enter into a mineral extraction lease at Rice Lake was withdrawn in May, 1982, therefore we have no intention of awarding a mining lease for this area.

We recognize, however, that the lands unsuitable process will continue. Because the draft land report discusses DOC policies and the resources and management of an area under DOC jurisdiction and because of our responsibilities under an interagency agreement with the Department of Mines and Minerals, we are providing comments.

It is hoped these comments will be helpful in insuring both the clarity and accuracy of the information presented in the final report.

Sincerely,  
  
David Kenney

DK:RV:gb

Attachments



## GENERAL COMMENTS

1. The material in the draft report is presented in an inconsistent manner. Some sections deal with RLCA almost irrespective of its relationship to surrounding lands while other sections address impacts on a local, regional and statewide basis. Further, some sections present information based on the short-term while long-term projections are made in others. There are numerous statements throughout the report such as, "clear trend towards increased use", "used heavily by white tailed deer", "high diversity", "ranked number 10 in State water bodies producing commercial fish" which are suspect unless placed in perspective through appropriate comparisons or more detailed explanation.
2. The DENR should not attempt to interpret the policies and goals of the DOC. It was suggested on page 7 of the report that mining "would appear to be incompatible with SCORP goals." The report also states that DOC funding and acquisition problems must be balanced against our stated goals for preservation of wetlands, natural areas, cultural heritage and forests when, in reality, these are not mutually exclusive issues and mining could potentially have provided a vehicle to preserve or further all the above goals instead of requiring tradeoffs between them as is implied.

As a result of the proposal from Freeman, for instance, an additional 1,850+ acres of habitat at Banner Marsh would have come under State ownership. Also, in addition to our current holdings at RLCA, approximately 2,300 acres of lands adjacent to the RLCA would have come under State control after mining. Depending on how a reclamation plan for this entire area was devised, the result in time could be an increase in the forest acreage, wetland acreage, and habitat types currently not present (or present in small quantities). Additionally, these areas would be surrounded by a levee providing protection from the Illinois River and its continual degradation of all the backwater areas associated with it.

As for the cultural resources, no determination has been made that the value of the sites at Rice Lake can only be realized through preservation in place and since such instances are in fact rare, it would seem quite speculative and most likely inappropriate to deem mining as being incompatible with our goal of protection of cultural heritage.

It is likewise inappropriate to state that mining would be incompatible with our goal of preservation of natural areas. There is no area within RLCA currently designated as a natural area. The documented eagle communal night roost indeed would make that site eligible for inclusion in the Natural Areas Inventory; however, a detailed process must be followed including further study to determine the significance of such a discovery before actual listing would occur. To automatically assume listing is highly speculative and it is erroneous to further make the assumption that mining is therefore incompatible with our goal of natural areas preservation.

In the future, to avoid such misinterpretations of policy, it would be best to inquire of the organization/agency whose policy is being referenced how their policy or policies applies to a given proposal, rather than to attempt independent interpretation.



3. In many cases, identical material was used in three separate locations in the report; in the summary, in the existing resources section and in the impacts section. This added to the overall bulk of the document and should be avoided.
4. A summary of 71 pages is excessive and it is recommended it be shortened.
5. The DOC was pleased that issues raised in the report were for the most part the same ones identified in our "Rice Lake Mining Issues." We were surprised, however, that overall the report answered very few of the outstanding questions surrounding mining at Rice Lake. Is it DENR interpretation that the land report should only identify what is known and not make an attempt to further identify existing resources and answer outstanding questions?
6. References to Becker, 1982 should be changed to Sweet, 1982. The authors assumed the cover memo dated February 8, 1982 from Carl Becker to Randy Vogel transmitting comments on Issue 4 regarding the Rice Lake Mining Proposal indicated authorship. The author of that document is Michael Sweet.
7. References are made throughout the text to land features which are not labeled on any of the maps: Round Pond (VII-10), Fiddlers Slough (VII-10), Ridge Field (VII-12), Barton Field (VII-12) and numerous others such as Hoxie Ridge and Miserable Island. Identification of these areas on a map would be helpful.
8. We recommend only common names of species be utilized in the text with the concomitant scientific nomenclature given in an appendix.
9. A general discussion of alternative reclamation plans is needed. The factors used in making judgements of impacts should be projected into such a scheme.

## SPECIFIC COMMENTS

- Page 2, P4 The report states "a description of the existing (and future) resources in both the petition area and the surrounding region is presented." In our review we note that no description of the plans for the adjacent Banner Marsh area is presented, and its integral relationship to the proposal presented to the Department of Conservation by Freeman United Coal Company is not discussed.
- Page 3 The Master Management Plan for the Banner Marsh State Wildlife Area should be listed as a Land Use Plan pertaining to the RLCA and surrounding region as it outlines the proposed use of over 5,000 acres of adjacent lands.
- Page 7, P1 The report states "A proposal to mine the RLCA could result in DOC receiving approximately 338 acres north of the Conservation Area in exchange for the right to mine Rice Lake." We are unsure of the source of this data as, under the proposal by Freeman United, the Department would have received approximately 1,850 acres at Banner Marsh immediately and would receive approximately 2,300 additional acres of land adjacent to RLCA after mining and reclamation were completed.
- Page 12, P3 The narrative on floodplain forest is confusing. Species are listed which make up the forested areas east of U.S. Highway 24. It further lists the species occurring in the remaining area of floodplain forest which must, therefore, be west of Highway 24. None of RLCA west of Highway 24 contains floodplain forest. In addition, pin oak should be added to the former list as on page 13 of the report, "several stands of mature pin oaks" are mentioned.
- Page 14, P2 It is incorrect to state that the genus Boltonia is endemic to the Illinois River bottoms and that Boltonia species have been declining rapidly. Both statements are only attributable to B. asteroides var. decurrens and not to all species of the genus Boltonia or even other varieties of B. asteroides. It is also appropriate to note that the population of this species (mentioned on page VII-16) occurs in an agricultural field indicating its ability to persist on disturbed sites. This field was not planted in 1982 due to wet conditions.
- Page 14, P3 In referencing Indiana bats, use of the phrase "critical summer habitat" is incorrect. Critical habitat for the Indiana bat are the hibernacula (caves) and no other critical habitat has been identified by either the USFWS or the DOC.
- Page 15, P1 The Illinois River valley, in general, does meet all the habitat requirements for overwintering eagles, but Rice Lake Conservation Area does not. Open water may be the most important feature of bald eagle wintering habitat as food supply is probably the most critical feature of the biology of wintering bald eagles (Steenhoff 1978). During normal winters, Rice Lake freezes which would force many eagles to move to areas of open water for foraging. In addition, based upon what is known about severe weather roosting sites, there does not appear to be habitat available at RLCA to provide suitable protection. A communal night roost was docu-



mented at RLCA during the winter of "82", "83". It does not, however, exhibit characteristics typical of communal night roosts. Most winter roosts used by bald eagles are well protected from wind and, in fact, roosts along the Illinois River are usually on east-facing slopes protected from prevailing westerly winds (Steenhoff 1978). It is quite possible that establishment of this roost occurred due to the abnormal conditions of the winter of "82", "83", specifically extremely mild weather and record flooding. Therefore, in judging the significance of this roost, further monitoring is required as roost sites are normally used by eagles for several years (Steenhoff 1978).

In order to maintain proper perspective, additional narrative is needed explaining the statement "There appears to be a clear trend toward increased use of the RLCA by wintering eagles". The INHS aerial censuses would indicate this is not a phenomenon associated only with Rice Lake, but is, in fact, occurring in the entire lower Illinois River Valley. There does not appear to be a trend toward greater usage of RLCA in comparison with increases associated with other areas. Perhaps more detail on overall population trends and usage patterns would be helpful.

P2 Double-crested cormorants have also been documented utilizing the Rice Lake/Big Lake area this summer (1983); however, these were also apparently non-breeding individuals as no evidence of nesting activity could be found.

P3 This Summer (1983) brown creepers, a State endangered species were documented at RLCA. This species is a common migrant and winter resident in Illinois and has also been observed at RLCA during these periods. It is a rare summer resident and nester, however, and cypress swamps and floodplain forests are apparently the habitat types utilized (Sheviak & Thom 1981).

Page 15, P4 A statement is made that the habitats of the RLCA are generally of high quality for supporting amphibians and reptiles due to the diversity of both terrestrial and aquatic areas. Further discussion is needed on the impacts of the fluctuating water levels, turbidity and lack of aquatic vegetation especially during breeding season.

Page 17, P2 It should be noted there is a probable occurrence of at least three species of mussels in Rice Lake based on a collection made by the petitioners and identified by Dr. Richard Sparks of your staff. In addition, the narrative in this section is misleading. The statement is made that generally the Illinois River mussel fauna has been more decimated than the Mississippi River fauna. Then, a study of the upper Mississippi River is referenced wherein seven species were considered rare, leading the reader to the erroneous conclusion that these species could therefore be considered even more uncommon in the Illinois River. One of the seven species listed in the Mississippi River study, the flat floater (Anodonta suborbiculata), is also one of the three species collected by the petitioners and identified by Dr. Sparks. Appendix G is a letter from Dr. Sparks regarding his identifications wherein he states "None of these are rare or endangered species and all of them are found in still or slow-moving water."

Page 18, P2 The information on the fall migration of waterfowl is misleading. Daily



waterfowl populations of 40,000 birds are common in that portion of the Illinois River valley containing Rice Lake Conservation Area; however, such numbers are not commonplace at Rice Lake itself as evidenced by the INHS aerial censuses. Out of a total of 162 individual autumn censuses conducted over the past eleven years, only once has a waterfowl population in excess of 40,000 birds been noted and never was 85,000 attained. We note the DOC source document used in making this reference is misleading in this regard. Although the RLCA does support a mean autumn duck and goose population of over 5,000 birds, the area generally supports less than 5% of the total waterfowl censused on the lower Illinois River (INHS census data).

Page 19, P2 The statement is made that hunters in the surrounding areas bag many waterfowl which utilize Rice Lake as a feeding and resting area. It should be equally appropriate to assume that, in addition to the bag by hunters on these private lands, many waterfowl utilizing private areas for resting and feeding are bagged by Rice Lake hunters. This is especially true considering the adjacent privately owned Big Lake historically holds substantially larger numbers of waterfowl in the autumn than does Rice Lake.

Page 20, P1 Spawning by most fishes is completed well before the summer drawdown of Rice Lake occurs. In addition, Dr. Frank Bellrose was questioned at the fall 1981 annual meeting of the IEC regarding the possibility of total draining of Rice Lake in order to consolidate bottom sediments. It was his opinion, and we would agree, that due to the physical nature of the sediment, it would require a period of several successive years of drying to accomplish this.

P3 Barring changes in surrounding land uses, a wildlife dispersal corridor would still exist in the event of Rice Lake mining. The "corridor" also could be enlarged after mining dependent upon the specifics of a given reclamation plan.

Page 22, P2 Mining would probably have an effect on the natural drainage pattern. It is standard procedure to divert drainage from the unaffected area around a mining operation. Such would undoubtedly be the case in the event of Rice Lake mining with the construction of a perimeter ditch along the west permit boundary to direct flow away from the operation. Whether these drainage patterns would be restored would be dependent on the reclamation plan and specific management goals.

Page 25, P1 There is no evidence to support the statement "the impact of mining Rice Lake on endangered and threatened plants will be to eliminate potential habitat for four state-listed wetland species once known from Fulton County." Exact requirements of these species are unknown and because of this it cannot be assumed that a reclaimed Rice Lake would not be potential habitat.

In addition, there are two areas at RLCA, one centrally located and one on the southern border, which are not underlain by coal and would, therefore, not be mined. Even if undisturbed moist soils were required for the existence of these species, such areas would still exist after mining.

Page 25, P4 There should be minimal threat to fishes in adjacent areas from increased

turbidity and sedimentation as a result of mining. Both IEPA and DMM have strict standards for control and treatment of affected drainage and for revegetation and stabilization and there is no reason to assume these agencies will not enforce their standards. The turbidity and sedimentation from a mining operation should be miniscule when compared to the effects of the Illinois River on the areas in question.

- Page 26, P2 There appears to be no basis for the assumption that "mining the area would most likely result in smaller forested areas" and thus would further reduce the regional availability of suitable habitat for the Indiana bat, river otter and bobcat. As stated previously, the Department could have received an additional 2,300+ acres in adjacent lands representing a 90% increase in the size of the Conservation Area. Dependent upon the reclamation plan and management plans, the forest acreage in time could increase over current levels. In addition, because exact habitat requirements are not known for the three mammal species mentioned, there would seem to be no reason to assume that the reclaimed area would be less suitable to their needs especially since the Conservation Area would be 90% larger and additional habitat diversity would probably result.

This entire section (pages 24 through 26) seems to perpetuate the common myth that from the moment a mine is opened, all habitat within a permit area is lost for the life of the operation. Mining operations, however, disturb and subsequently replace habitat incrementally. As the operation slowly advances, the zone of disturbance likewise slowly advances a short distance in front of it. Reclamation follows the advancing pit occurring directly behind the operation. At Rice Lake, if mining started in the southern portion advancing north, it would be many years before disturbance would occur in the northerly areas. The lake proper would be drained at the start of the operation and this habitat would be removed. Lush plant growth would then occur on the exposed lake bed, however, providing a different type of habitat and the trees in these northern areas would also still exist until removed by the advancing pit.

- Page 29, P3 Provisions for handling and disposal of toxic processing wastes are currently contained in State law. In addition, it should be noted here that coal processing and disposal of refuse would most likely not occur in the petition area.
- Page 41, P1 The Report indicates an average of 100,000 persons per year visit Rice Lake. The 100,000 figure refers to visits, not visitors. It is likely that many of Rice Lake's visitors are repeat visitors.
- Page 50, P3 The statement regarding the potential for trace metals exceeding recommended limits should be clarified. Recommended limits for what? The area should certainly still be quite suitable for fish and wildlife and recreation use.
- Page 53, P3 The assumption that a dragline would be used to move the geologic materials is probably incorrect. Freeman United Coal was the most



likely candidate to mine the area and their operations typically are shovel or wheel/shovel operations.

- Page 64, P2 The Report implies visitor-induced statewide economic impacts would be eliminated. However, if visitors went elsewhere in Illinois, then no decrease in statewide economic impact would occur.
- Page 69, P2 The discussion on property values should be expanded. While it is true that adjacent property values would most likely decrease during mining, they could potentially increase after mining due to proximity to a very large Conservation Area.
- Page II-28,  
Fig. II-3 The delineation of DOC Region I boundary is incorrect. It should extend from the LaSalle County/Kendall County border north to McHenry County then west along the DeKalb County/McHenry County border, then north along the McHenry County/Boone County border to the State line.
- Page V-37 The adjusted figure for average sediment accumulation given in Table V-3 (.3 Ft.) is not explained in the text. The annual loss of depth is given as .01 ft. on page V-34.
- Page V-38 The annual flooding of backwater lakes and the resultant fresh sediment deposits may enhance the productivity of the lake through the cycling of nutrients but the amount and nature of sediment deposited also has a detrimental effect on the plant and animal populations (decrease oxygen, increase turbidity).
- Page VI-4,  
Page VII-6 The figures given on these pages are illegible and should be redrawn or removed.
- Page VI-31,  
32, 33 The rating system used to construct Table VI-8 is misleading. The rating categories are very limited in their scope and only portray some of the characteristics of these soils. The Hickory series, for instance, was considered the most productive based on this classification. Since the Hickory series only produces 225 BF/A/Yr., it can hardly be considered the most productive. All of the other soil series, with the exception of the Rodman and Timula, are capable of producing between 400 - 700 BF/A/Yr.
- The report mentions the absence of Silver Maple from the "Common Trees" column in Table VI and points out that pines are often mentioned as suggested trees to plant. The data was undoubtedly taken from SCS soil interpretation print-outs which often do not consider inclusion of all species found naturally on a given soil and will often recommend exotic or non-native species which may be economically important, but are not necessarily ecologically important.
- Page VII-4 In formulation of Table VII-1 so many assumptions are made that the information becomes meaningless. For example, it assumes there would be increased value for endangered species without mining and decreased value with mining; for waterfowl there will be no change without and increased value with; for fish the change is unpredictable without and increased with. It would seem different and varying assumptions were



made for each circumstance and equally viable but different assumptions could have been made for each resulting in changes to the assigned values. In fact, page VII-19 states that "it is impractical to assess existing wildlife resources or to predict how these resources will change on a species by species basis." Perhaps a discussion of potential changes without conclusions would be more appropriate.

Page VII-9 One factor contributing to the slower sedimentation rate was not mentioned. DOC management, specifically the presence of the dam separating Rice Lake and Big Lake, is a positive factor. In addition, Rice Lake is not "representative of the once abundant and productive backwater lakes of the Illinois River Bottomlands Division." The numerous changes both physical and biological have rendered it quite different from it's condition prior to 1900.

It should be noted that the disappearance of aquatic vegetation and its subsequent effects was not unique to Rice Lake and, therefore, other contributing factors were probably involved.

Page VII-14 In discussing the natural area value of undisturbed forest in the last line on this page "successful" should be "successional".

Page VII-16 The habitat given for Boltonia asteroides var. decurrens on pages VII-16 and page 14 is "muddy shore of the floodplain forest". This is taken from the status report by Bowles for USFWS, but is a confusing statement. We suggest the habitat be changed to "moist soil of open bottomland forests, river and lake margins and fields". Bowles agrees it should be changed.

Page VII-18 The statement that 1 million dollars loss in timber value refers to the potential productivity of the area lost over a mining period. To consider this an actual monetary loss, however, assumes logging would otherwise have occurred during this period or will occur in the future. It is highly doubtful this is the case.

Page VII-20 The information on relative abundance for mammals references central Illinois, whereas the relative abundance for birds does not reference any geographic area. Are the bird relative abundance notations statewide, regional or site specific? If site specific, species such as the Upland Sandpiper and Henslow's Sparrow should be deleted. If of regional scale, then they should be included. It makes a difference on relative abundance; the great egret may be common on a site specific scale but it is not on a regional or statewide scale.

Page VII-20 The value placed on any one group of birds is subjective. Waterfowl and endangered species may be of utmost importance to hunters, preservationists, scientists, etc., but the role of the heritage species (insect and predator control, aesthetic, etc.) cannot be overlooked.

Page VII-33 Even with DOC addressing sedimentation problems, there appears to be no basis for the conclusion that the value of the area for waterfowl will improve as the detrimental conditions currently present at RLCA will remain even if the overall rate of decline is slowed by DOC management activities.

- Page VII-41 In examining the INHS waterfowl censuses, we were unable to ascertain how the mean numbers of eagles per census given in Figure VII-5 were determined as our calculations for autumn means resulted in smaller numbers. In addition, the line extending from the intersection of the X and Y axes would indicate that no eagles were present prior to 1973. Likewise the line between the year 1979 and the mean number for 1980 would lead the reader to the conclusion that spring use by eagles only began in 1980 when a dramatic increase occurred. Further discussion of this should be provided.
- Page VII-42 Table VII-9 is incorrectly labeled as Tazewell County. The location of the heron rookery is Mason County.
- Page VII-43 Why and how is it noteworthy that the sand areas immediately across the river to the east support a unique assemblage of herps?
- Page IX-29, footnote: Interviewing at Marshall County and Rice Lake did not occur from May, 1981, to February, 1982. Interviews at all 26 sites surveyed in the Department's Visitor Expenditure Study occurred during this nine month period. Interviewing at Marshall County and Rice Lake occurred over a 2 day period in June, 1981.
- Page IX-32, P2 Income in the form of wages and salaries paid to employees and proprietors of businesses selling goods and services to Rice Lake visitors and the Department is also part of the income impact. Based on the 1977 Census of Retail Trade, for Fulton County, wages and salaries represent roughly 10.5 percent of sales. If this figure is applied to the visitor and DOC-induced sales impact (\$182,000-\$348,000), then this portion of the income impact would be an additional \$19,110-\$36,540 per year.
- Page IX-32, P3 The portion of the total tax impact attributable to income taxes (\$1,400 in the Report) would increase as indicated in the comment above.
- Page IX-33, P1 Sales, income, and tax impacts should not be added up to obtain a "total economic impact." These are simply different measures of local economic impact. In fact, double counting may occur since income and tax impacts are included in sales impacts.
- Page IX-48, P2 Delete "prior to 1983 were" and insert (in place) "are". The L&WCF program was funded in federal fiscal year 1983 and is expected to be funded again in federal FY'84.
- Page IX-49, P1 The Report refers to discussion of SCORP program commitments in Chapter IV. Chapter IV is "Atmospheric Resources." The discussion is in Chapter XI.
- Page X-55, P2 According to the Illinois Revenue Act, land owned by the state, but leased, e.g., to a farmer, can be assessed property taxes. If some of the eventual 2,382 additional acres were leased from the Department, e.g., for farming purposes, then the "net permanent loss" would be less, depending on the acreage leased per year.



In addition, it could be assumed that the additional 2,382 acres, if developed for recreational use, would increase visitation substantially. If this occurred, then some of the "net permanent (property tax) loss" would be offset by the eventual gain in local sales tax revenues associated with the increased visitation.

- Page XI-23  
P2 Considering the dominant soil series in the area, will the increases in velocity fall within IDOT/DOWR guidelines?
- Page XI-40 Regardless of the slope of the levee, any surface water directly contacting it would be shallow so enhancement of littoral zone regeneration does not appear to be a factor.
- Page XI-42 The paragraph on prime farmland indicates "these areas would have to conform to federal and state regulations regarding return to equal or greater productivity than equivalent reference areas" as though this is a requirement unique to agricultural lands. Section 1816.116 (a) (2) of the State's mining regulations, requires that all revegetated areas must, at a minimum, equal the productivity based on the use of reference areas or technical guides.
- Page XI-43 There is absolutely no basis for the assumption that if mining occurs, "the diversity of biota now enjoyed in the area will be slow if ever in reestablishing. (See comments regarding pages 3 and 26). As an example, bird surveys were conducted at both RLCA and Banner Marsh. The diversity of species present on the two sites were virtually identical with 75 species at Banner Marsh and 73 species at Rice Lake. In addition, all inclusive surveys of the biota were not done at the site, so how was the diversity determined?
- Page XI-44 How could aquatic vegetation, as it occurred prior to the late 1950's, be re-established even if siltation into the lake bottom were controlled? Further explanation is necessary.
- Page XI-47 The statement on impacts to the bluff is very speculative for the following reasons: Dewatering may not occur; even if it does, impacts are not known; even if impacts were known, specific requirements of the species referenced are unknown so it cannot be determined the area would be less desirable (degraded) for these species.
- Page XI-48 Timber harvest is not one of the management objectives at Rice Lake so discussion of silvicultural and agroforestry techniques is not pertinent.
- Page XI-49 A reforestation project at Banner Marsh would not be reliable in predicting success of reforestation at Rice Lake. Reclamation techniques were very different at Banner Marsh as compared to the current requirements which would be imposed at Rice Lake.
- Page XI-52 The reference regarding Herpitle repopulation of unreclaimed sites is not pertinent.
- Page XI-70,  
71 Further discussion on the recreational impacts is necessary. For instance no discussion on an expanded Banner Marsh, including hunting, was presented. Again, it would have been appropriate to inquire of DOC how recreational impacts would be treated under a mining scenario.



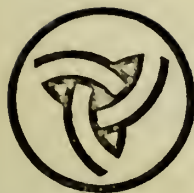
Page XI-74 Funding and acquisition are treated as two separate issues in the draft 1983

Pages XI-78, SCORP. Listing them as "Funding/Acquisition" in the Report implies  
79 they are one issue.

Pages XI-76, While it is true that bottomland forests are considered wetlands, the 50,000  
77 acres referenced does not include such areas. This figure represents areas which the general public views as wetlands such as swamps, bogs and marshes. Likewise the majority of Rice Lake itself would not be included.

Appendix F The thirteen-lined ground squirrel is not State-threatened.

Appendix I, The exponent is assumed to be "2". The basis for this assumption  
page I-4 is not clear.  
PI



# Illinois Department of Transportation

Division of Water Resources  
2300 South Dirksen Parkway/Springfield, Illinois/62764

August 12, 1983

Illinois Department of Energy  
and Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams Street, Room 300  
Springfield, Illinois 62706

Gentlemen:

Thank you for providing us with a copy of your draft of the  
Illinois Land Report: Rice Lake Conservation Area.

Under the authority of an Act in Relation to the Regulation of Rivers, Lakes and Streams (Il. Rev. Stat. ch. 19, par 52 et seq.), the Illinois Department of Transportation, Division of Water Resources would require that a permit be obtained for any construction within the floodway of the Illinois River. The review of such a permit application would include an evaluation of the construction's effects on the flood carrying capacity of the river, i.e. the river's ability to convey and store flood waters. For construction such as levees, this evaluation would include an assessment of the cumulative impacts which would occur due to encroachments from other reasonably anticipated flood plain uses. Although we are not disputing the conclusions contained in your draft report concerning the hydrologic and hydraulic impacts, we do question whether an appropriate cumulative effects' analysis has been performed.

Sincerely,

David R. Boyce, P.E.  
Chief Flood Plain Management  
Engineer

DRB:DLK:1mb


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AUG 15 1983

E.N.R.







CHILLICOTHE - ROME - PEORIA AREA

# ILLINOIS RIVER VALLEY ASSOCIATION

po box 166  
rome IL 61562

August 11, 1983

Mr. Michael B. Witte, Director  
Illinois Department of Energy  
and Natural Resources  
325 W. Adams St., Room 300  
Springfield, IL 62706

Dear Mr. Witte:

The Illinois River Valley Association appreciates the opportunity to comment on the Rice Lake Land Report.

This association is not convinced by the facts provided in the report that the proposed Rice Lake levee will not have a significant effect on upstream flooding of the Illinois River. By restricting the flow of water, the levees already built on the Illinois River south of Peoria have helped increase the frequency of serious floods (above 24 ft. level) in the Chillicothe, Rome and Peoria area. Since 1943, the Illinois River has flooded above the 24 ft. level eight times, of which seven of the eight times have been since 1970. Any aggravation to this already serious problem would not be acceptable to the hundreds of homeowners in the flood plain.

Our association feels that before the Rice Lake project is approved, a much more in-depth study should be conducted by state and federal agencies to insure that no increased upstream flooding will be caused by Rice Lake levees. We believe further study by the Corp of Engineers will prove the levee project is more serious than first thought.

We also believe that the additional study should include the effects that restricted river flow has on increased siltation upstream. According to the Illinois Natural History Survey Biological Notes #119 published in April, 1983, Peoria Lake has only an average half-life of 24 years due to siltation. If not remedied, this means the loss of the use of Illinois' largest lake in the not too distant future. This natural resource must be preserved and not threatened further.

**RECEIVED**

AUG 15 1983

**E.N.R.**

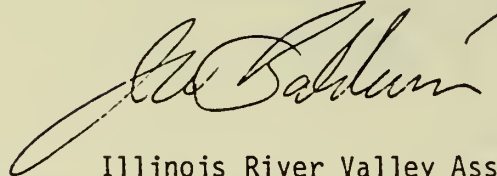
Mr. Michael B. Witte

- 2 -

August 11, 1983

Once again, we appreciate the opportunity to participate in the review of your study.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Illinois River Valley Association", written in a cursive style.

Illinois River Valley Association  
P. O. Box 166  
Rome, IL 61562

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AUG 15 1983

Illinois Dept. of Energy & Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams St., Room 300  
Springfield, IL 62706

E.N.R.

Re: Draft Illinois Land Report-Rice Lake Conservation Area

From: James R. Kirk  
P.O. Box 2100, Sta. A.  
Champaign, IL 61820  
(217) 398-2158  
An Illinois Citizen

ref: All 760+ pages

I regard the 30 day review period for this document, compiled by 50+ people over a six month period, an extremely short time; even if one was to receive a copy on the day of its release. I am sure today that most of the 11.4 million owners of the Rice Lake Conservation Area (RLCA), the citizens of Illinois, still do not know this draft Land Report exists much less that they have had a chance to comment on it.

The Economic Loss if the RLCA is Mined.

The model in Appendix I is based on the erroneous premise that the RLCA is not unique. Even though pages 19, 43, & XI-70 indicate it is the only "permit duck hunting" area in the state. On page 43 the RLCA is said to not have electricity, true then, but on July 17th I saw electricity being installed at RLCA camping sites. Does Anderson Lake or Banner Marsh have the wide diversity of plants or of migratory and resident wildlife? RLCA is unique; it is part of the public domain, a public trust, held by IDOC; yet pages 42 & XI-72 indicate Anderson Lake and Banner Marsh have similar facilities.

How was the average number of visitors in Appendix I found? In my visits to RLCA I have yet to see any IDOC employees, therefore must assume the visitor figures are low. With these figures and a model based on an erroneous premise, the estimates of the economic losses due to mining the RLCA is understated.

Even using the figures provided on page XI-71; table X-30, on page X-66, uses the lower values. Next that same table uses the higher values for mining income & taxes (again assuming all the coal is sold in Illinois) page X-70. A good example of the objectiveness of parts of this draft report.

Finally there is no mention of the RLCA's intrinsic value. What is the value to the citizens of Illinois just knowing a place like the RLCA exists?



### IDOC's Management Goals for RLCA

It would have been less confusing to have in the appendix some of the reference material noted on page REF-11, such as: Rice Lake Mining Issues, Banner Marsh management plan, and Rice Lake/Banner Marsh development & operations memo. Pages 23, 38, & XI-28 indicate that a mined RLCA will be better able to meet the IDOC management goals. Page II-10 say RLCA is operated and maintained for the primary purpose of waterfowl management, Page V-18 says "The Conservation Area was utilized to provide an optimum environment for waterfowl migration during autumn and for fishing, hunting and camping.", I guess this is no longer the case. While page V-38 indicates RLCA is managed to improve waterfowl habitats to obtain better hunting, and pages VII-33 & 34 speak to management plans and practices about sedimentation and commercial fishing. Without the reference materials I am confused about what IDOC is trying to do in the RLCA, or maybe they don't know either.

This same confusion carries over into the reclamation parts of the draft report. Each saying about the same thing; a well designed and executed reclamation plan could, in time, result in an overall increase in the value of the area for ?????, assuming that %%% would be available. But if deep waters are provided for sport fish then the wading birds will need to be issued stilts, and if shallow waters are provided for the wading birds then the chemical condition of the water will change from what is provided in the report. (pages 25, 26, 53, XI-28:29, XI-46:53) But in the Table on VII-4 we can tell that the expected change will be better for both waterfowl and sport fish. And anyway with "state of the art" reclamation we can grow sugar maple (34" dbh) and red and white oak (40" dbh) in 75 to 100 years--5 generations. (pages 24, 39, VII-14)

### The Economics of Mining

Pages III-10:13, III-52:57, X-2, X-17:21, X-66:67, & Appendix J; indicate the reserves of coal for the area. These are generally couched in the context of "other surface-minable coal reserves with high development potential". RLCA doesn't even fit into this class of reserves, because it has minor obstacles. Underground minable reserves are not even mentioned even though between 1970 and 1980 half of the coal mines opened in Illinois were underground mines. The reserves of minable coal in the region are understated.

Page XI-61 speaks of new jobs, but are we talking about new jobs or just the loss of fewer jobs. Pages 63, IX-10, & XI-69 indicate that Buckheart 17 will be closing in 3 to 4 years and projected openings for a mine in RLCA is placed as 1986 (page 69). Therefore it would be a net loss of 60 to 110 jobs.

### Water Quality

Page XI-19, I always thought of high sulfate levels in water to be more

than an aesthetic problem, but then I guess a laxative could cause some aesthetic problems.

Page XI-17, if the alleged groundwater discharge zone could be accounted for by the presence of a coal subcrop, will not the area be disturbed by mining said coal, or coal up-gradient from the subcrop.

#### Eagles

Pages 15, I-15, II-7, VII-10, VII-40-43, XI-55, & F-4 say that a reasonably well documented use area of a federal endangered species will be destroyed. They only indicate that overwintering eagles use the RLCA and they will lose both their food supply and roosting sites. It may surprise some to learn that we watched a pair of Bald Eagles tumbling in their mating flight May 2nd, 1982 over the north end of Hoxie Ridge; this is after the usual migration period. These eagles would lose more than a winter roost.

#### IDOC's Funding & Acquisition Goals.

Pages 7 & XI-79, the mining of Conservation's lands are also incompatible with those same funding and acquisition goals. As a citizen I am less likely to support an agency which destroys the lands it is suppose to protect. Also those who give donations, life estates, and gifts are less likely to do so as the IDOC continues to allow highway construction and other non-conservation uses of conservation lands (mining). I know of many cases where such lands were given to private groups like Nature Conservancy and Audubon because of the lack of trust in IDOC's willingness to protect such lands. These losses outweigh any gain from the mining of the RLCA.

#### Allegations

Pages 2 and I-11 says the land report will address all of the petition's allegations. The petitions first allegation is never fully addressed --reclamation is not feasible. Many conditional statements are made which indicate that it may in time be technologically feasible, but none prove it to be so. In fact several places the land report indicates that before mining maybe we should prove that reclamation is technologically feasible, using Banner Marsh as the testing grounds. The economic feasibility of reclaiming RLCA after mining never mentioned. (pages XI-8, XI-45, XI-51)

In closing I find the land report to support most of the petition allegations that the RLCA could not be reclaimed, and therefore must be declared unsuitable. And if the Department of Mines and Minerals does not designate the RLCA as unsuitable for surface mining then they must, at least, place conditions on future surface mining operations which would successfully mitigate the impacts of such operations, such as:

Prove restoration technologically will work on Banner Mine Area. Grow a hardwood forest to replace the roosting areas in RLCA, we have the time. The coal is not going to disappear. Even using the land reports reserve figures, the RLCA contains less than 6% of the Fulton County No.2 coal which is surface-minable with high development potential. At the mining rates in the Land Report, this alone will last about 200 years. That time could be used to verify the effectiveness of reclamation plans proposed for RLCA, on the Banner Mine Area.

As this was the first land report from the LUMPs program we all are watching to see if the spirit of the law is upheld. The land report indicated many times that this site has more data about it than most coal producing area in the state. I wonder how those other areas would fair under such a proposal.

I would hope that IDOC would change its mind about destroying RLCA. And make this whole issue moot by asking the Department of Mines and Minerals to declare RLCA unsuitable for surface mining.

*James R. Kirk*



# SAVE RICE LAKE AREA ASSOC. INC.

R.R.3 CANTON  
ILLINOIS 61520



August 14, 1983

RECEIVED

AUG 15 1983

Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams St. Room 300  
Springfield, Illinois 62706

Subject: Comments on draft Illinois Land Report: Rice Lake Conservation Area. **E.N.R.**

Sirs,

It is very difficult to formulate a comment on the Pre-draft of the land report concerning RLCA. The bulk of the document, the very short allotted time and the evasiveness of your considerations. The report is saturated with the following descriptive words and phrases:

( is expected- make it likely -will have to address- could probably- would probably - may be - should provide - could be improved - might be - should be- probably would be - would appear - are expected - should not affect - should not - are assumed - we anticipate - it is unlikely - it seems reasonable- tend to be - little is known - presumably).

The above descriptive phrases which are not conclusive do not reflect facts.

Time and space will not permit us to comment on all of the discrepancies in the report. Following are a selected few.

1. Page 43 (summary). line 13.

Reads: " The area affected by reduced visibility would be restricted to only a few feet down-stream from the mine.

Delete: The word downstream.

Should read: Due to the prevailing wind direction at Peoria which is from the South during all months except February and March, the the affected area would have reduced visibility for several hundred feet upstream.

Reason for change: If the wind is out of the South it is impossible for the mine dust and aerosols to drift downstream.

2. Page 44 (summary). Paragraph 2.

Reads: It is not known where specific mining might take place in the RLCA and there-fore assessment of impacts regarding buffer area is not possible. However, it is anticipated that any potential conflict could be mitigated.

Delete: The statement- "However it is anticipated that any potential conflict could be mitigated."

Reason for change: How can ENR anticipate mitigation of a potential conflict of which they have no knowledge of the magnitude or the location?

3. Page II-26. Figure II-2. (chart)

You omitted the review and recommendation by the Conservation & Natural Resource Committee of the Fulton County Board.  
Please re-address this exclusion.

4. Page 49. (summary) Line 1.

Reads: Inflow to this area, instead of being held by the lake, will be pumped away.

Please clarify: Pumped away to where?

Reason for question: This is not clear facts and should be addressed in great detail the discharge area, the discharge rate, the size and description of the reservoir from which it is pumped away.

Sincerely,



John R. Grigsby Sr. President SRLAA  
R. R. #3

Canton, Il. 61520  
(309) 647-4865



# southern illinois audubon society

a chapter of illinois audubon society

box 1267 carbondale, illinois 62901

15 August, 1983

TO: Illinois Department of Energy and Natural Resources  
Lands Unsuitable for Mining Program  
325 W. Adams St., Room 300  
Springfield, Illinois 62706

FROM: W. Clark Ashby, Conservation Chairman

*Clark Ashby*

RE: Illinois Land Report Rice Lake Conservation Area

I wish to comment on the draft land report which reached me just this afternoon. We have since then spent a considerable amount of time studying and discussing its contents. I request that my comments be included in the lands unsuitable decision process.

The Report, and the Petition from which it originated, are both of great significance as the first of their kind under the federal Surface Mining Control and Reclamation Act of 1977, Public Law 95-87, so far as I know in Illinois. I wish to commend the preparers of the draft land report for a thorough and comprehensive presentation, given time constraints and limitations in the present data base for such studies. Its strength is greater in postulating expected short-term losses (costs) in present values of the Rice Lake area from mining compared to possible long-term gains (benefits). More attention could well be given to the processes of succession in community development, and to the significance of introduced species (weeds) in the early stages of succession.

The Petition is the first instance known to me in which a citizens group has endorsed natural communities as a higher and better land use, compared to corn for example, under P.L. 95-87. This action could well herald a new and important change of philosophy toward reclamation. The societal values of natural areas and wildlife have too long been neglected in land-use planning of surface-mined areas. Rice Lake has high value for possible demonstration of both aquatic and terrestrial reclamation techniques for non-agricultural needs.

If I may also wear my hat as a professor at Southern Illinois University at Carbondale who has worked with reclamation of disturbed lands since 1950, I feel a serious omission in such a Report is a failure to document, or even recognize, the possibilities of improved soils and vegetation in reclamation. Restoration may not be good enough. With reference to page XI-31, par. 1, much research information is already available showing the value of using materials lower in the overburden for constructing post-mining soils. Attention must be paid to particle sizes greater than 2 mm in building minesoils. Coarse fragments contribute to improved soil air and water relations, to better pH and nutrient levels, and lessen compaction damage. The literature cited emphasizes agricultural studies which are scarcely appropriate for the land uses proposed in the Rice Lake plan.

Page XI-36, par. 3, speaks of, "...best current practices...", which needs clarification. "Current practices" have yet to merit a connotation of "best". Mining an area such as Rice Lake should be planned to use reclamation practices which maximize the potential for productive ecosystems. Alternative practices should be implemented under P.L. 95-87 as variances and as experimental practices to the prevailing requirements. Examples of potentially better practices are



use of dragline pullback for approximate grading to lessen compaction, greater mixing of overburden materials, and band plantings of trees and grass-legume mixes to eliminate the problem of herbaceous cover overwhelming tree seedlings. Use of these practices will fulfill the intent of the Act for better long-term reclamation.

Clarification may be needed in the Report that mining is a process which takes place over a number of years. Habitats are improved for some species and degraded for others. Species are displaced to other habitats over a period of time, and the reclaimed areas rapidly become available for wildlife use as shown by the return of the giant Canada goose to Knox and Fulton Counties on stripmined lands.

The Southern Illinois Audubon Society will be pleased to respond to further requests for comments on the Rice Lake Conservation Area. I am enclosing a copy of our earlier Resolution on Surface Mining of Rice Lake. We wish to encourage greatly the recognition of ecological values in reclamation assessments. If possible please allow at least six weeks for action by the Society on conservation issues.

Enclosure

In August 1976 the SIAS passed a Surface Mining Policy after a series of discussions by the membership. There is now a proposal by the Freeman United Coal Mining Company to surface mine the Rice Lake Conservation Area near the Illinois River south of Peoria. Plans for the mining include Freeman giving the Illinois Department of Conservation its lands in the adjacent Banner Marsh area to consolidate the DOC holdings. The Rice Lake area would be restored to fish and wildlife habitat and a sea wall built to prevent continued siltation.

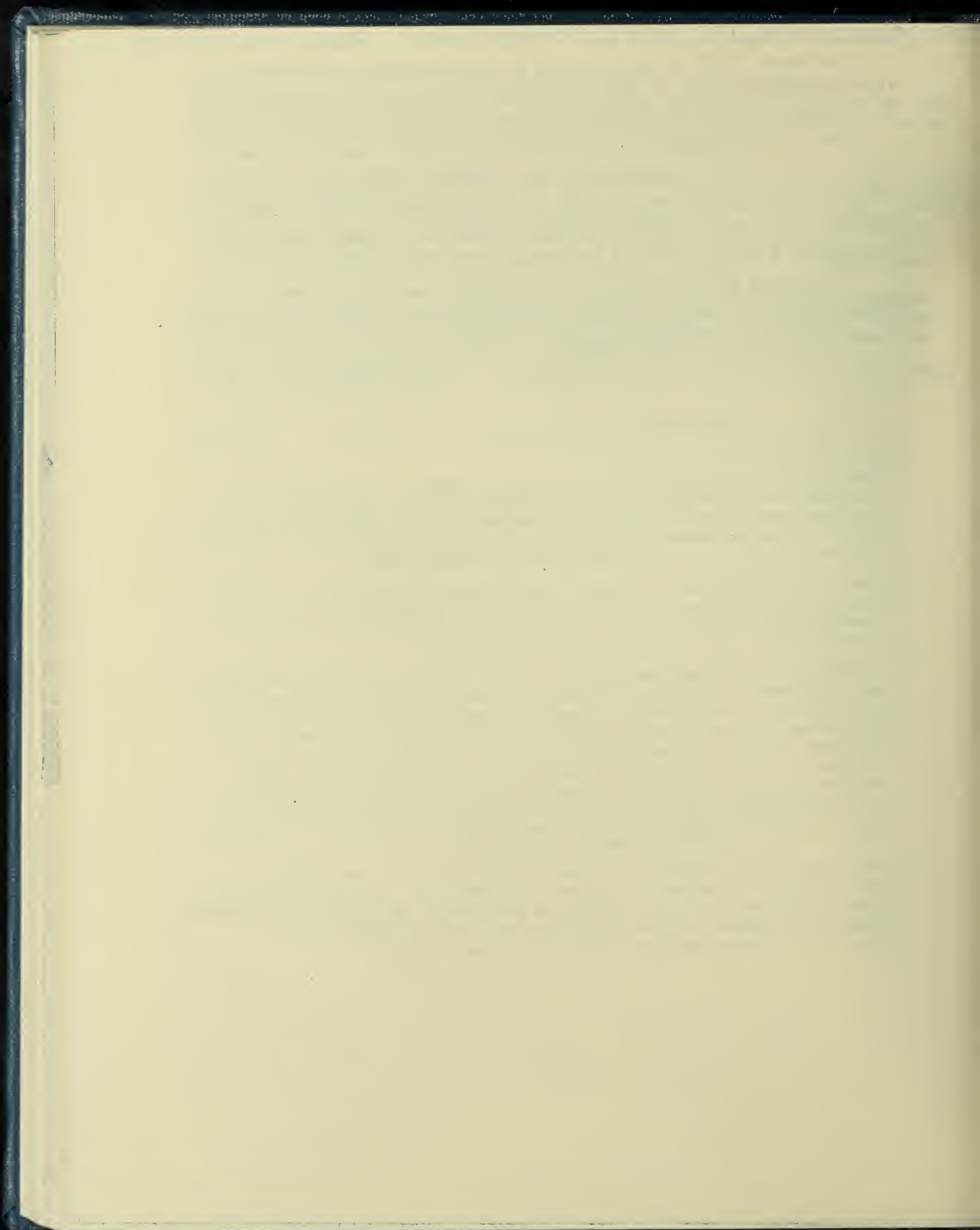
In keeping with our tradition of concern for maintaining the dwindling amounts of natural habitat I propose the following resolution for consideration at our next meeting.

Clark Ashby  
Conservation Chairman

RESOLUTION ON SURFACE MINING OF RICE LAKE

Be it resolved:

1. The Southern Illinois Audubon Society (SIAS) has had a continuing interest in protection of environmental quality, maintenance of natural areas, and development of mined land into habitat similar to its original condition prior to mining. This interest is documented by our Surface Mining Policy of August 1976.
2. The SIAS does not have adequate information to endorse or condemn the proposed mining of the Rice Lake Conservation Area and the proposed plans of the Illinois Department of Conservation for later land use in the Rice Lake-Banner Marsh area.
3. If plans for the surface mining of Rice Lake are further developed and implemented, the SIAS strongly recommends and urges that the mined area be developed into habitat similar to its condition prior to mining. We urge the maintenance of the dwindling amounts of original vegetation and wildlife habitat in this and other parts of Illinois. The Illinois Department of Conservation should work actively with the Illinois Department of Mines and Minerals and other regulatory agencies to assure that suitable provisions are included in the mining permit to authorize and direct the restoration of the original vegetation and habitat.
4. We instruct the Secretary to send copies of this resolution to David Kenney, Director, Illinois Department of Conservation and to Brad Evilsizer, Director, Illinois Department of Mines and Minerals, along with copies of the Surface Mining Policy passed by the Southern Illinois Audubon Society in August 1976.





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AUG 15 1983

E.N.R.

SIU School of Medicine  
Room 2345 Building 801  
1545 N. 11th St.  
Springfield, IL 62702  
Aug 15, 1983

Regarding: Land Report (Rice Lake)

Lands Unsuitable For Mining

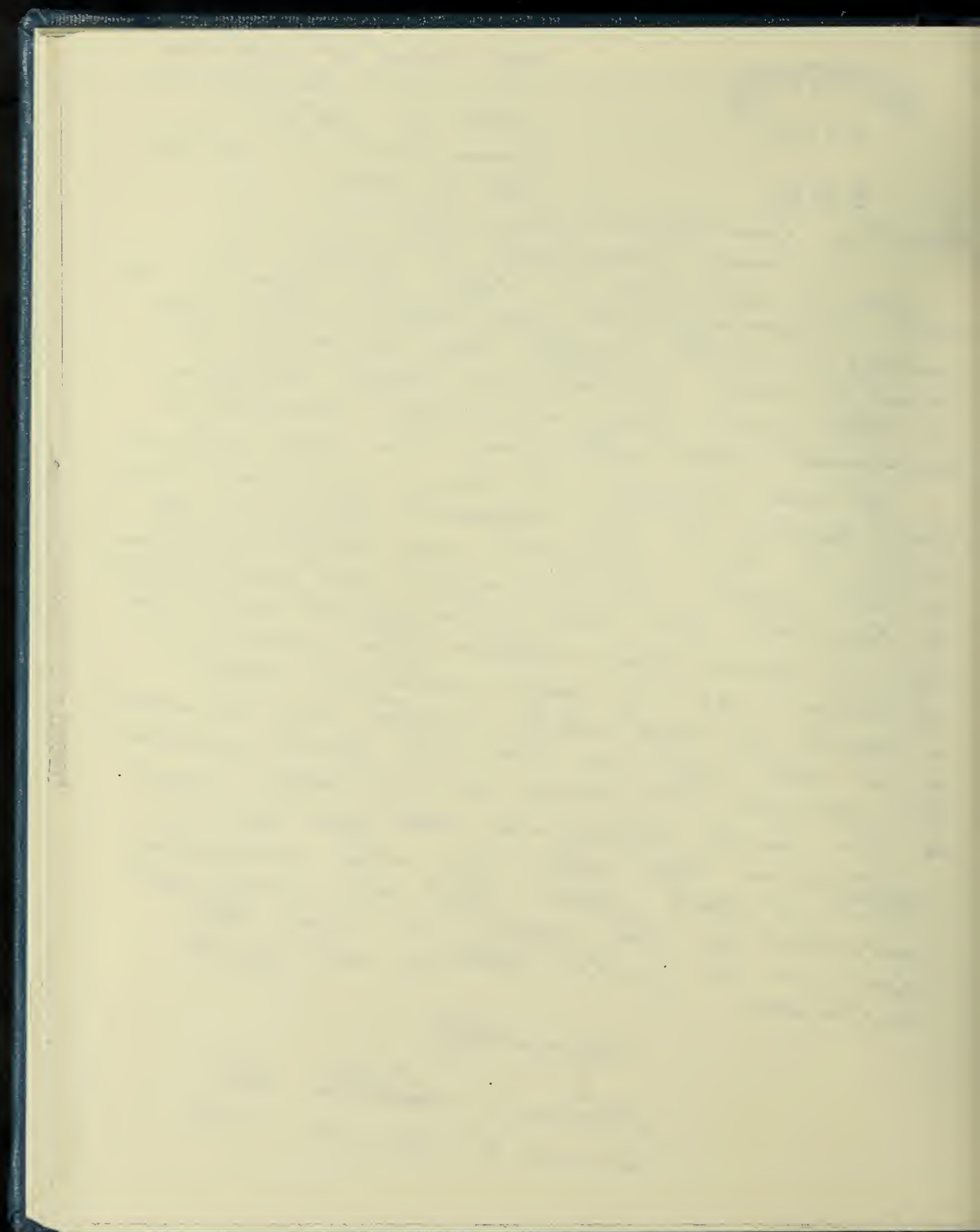
As a scientist, I find the report to be full of assumptions and suppositions and lacking in both quality and quantity of scientific data. Without good data (biological in this case) many erroneous conclusions, economical and otherwise, have been drawn.

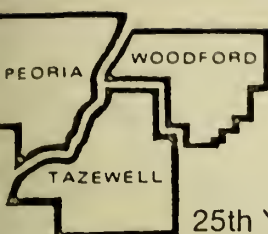
As an example, I have observed adult bald eagles on two separate days in May 1982 in both defensive and mating behavior at Rice Lake. Nesting adult bald eagle habitat at Rice Lake has been documented with the Dept. of Conservation before this report was initiated. One can only conclude that omission of such data is either poor research or a bias not to find the lands unsuitable for mining. Emission of such data leads to the faulty conclusions ENR has drawn.

Knowing that there are other endangered species at Rice Lake that also were not included in the report, I find the report to be quite lacking and quite worthless.

Respectfully,

Glenn V. Tockstein, Ph.D.  
Glenn V. Tockstein, Ph.D.





25th YEAR

## TRI-COUNTY REGIONAL PLANNING COMMISSION

DOUGLAS HALL  
INTERIM CAMPUS  
ILLINOIS CENTRAL COLLEGE

MAILING ADDRESS  
POST OFFICE BOX 2200  
EAST PEORIA, ILLINOIS 61611

PHONE (309) 694-4391

E.N.R.

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Peoria County

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Tazewell County

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Woodford County

SECRETARY

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Woodford County

TREASURER

Dorothy Sinclair  
Peoria County

EXECUTIVE DIRECTOR

Robert L. Pinkerton  
AICP, ASPA, ICMA

August 9, 1983 (Corrected Letter)

Mr. Michael B. Witte, Director  
Illinois Department of Energy  
and Natural Resources  
325 W. Adams St. Room 300  
Springfield, Illinois 62706

Re: Draft "Illinois Land Report: Rice  
Lake Conservation Area"

Dear Mr. Witte:

Thank you for the opportunity to comment on the above referenced report.

This agency is very concerned about the potential for increased flood heights, on the Illinois River, when flood plain storage area is removed by constructing a levee at the Rice Lake Conservation Area.

The Rice Lake Conservation Area is directly west of the southwest corner of Tazewell County. Tazewell County is a participant in the National Flood Insurance Program. The federal government has prepared a detailed flood insurance study for Tazewell County which has established the required floodway for the Illinois River. The study indicates that the floodway, for this segment of the Illinois River, extends from the Spring Lake Drainage District Levee on the east side of the Illinois River to the westerly shoreline of the Rice Lake Conservation Area.

The construction of a levee, within the designated floodway, to separate the Rice Lake Conservation Area from the Illinois River may cause flood levels to rise above the permissible 1/10 of a foot limit established by the Illinois Division of Water Resources. Any increase in flood height could have an adverse impact upon Tazewell and Peoria Counties and the Village of Kingston Mines, each a participant in the National Flood Insurance Program.

Chapter XI, page 26, of the above referenced report points out that "Downstream stages would not be affected by the loss of 50,000 acre-feet of storage volume as a result of a Rice Lake Levee." Excess floodwater tries to spill over the floodplain, but, hemmed in by levees, flood crests are forced even higher. Can the river safely discharge the ten-feet of water (50,000 acre-feet ÷ 4,500 acres of floodplain) previously stored in the lost floodplain area without significantly increasing upstream flood flow elevations?



Mr. Michael B. Witte  
August 9, 1983  
Page 2 (corrected letter)

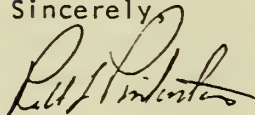
Re: Draft "Illinois Land Report: Rice  
Lake Conservation Area"

The U.S. Geological Survey Water - Data Report IL-79-2, page 204, presents the following extremes for the Illinois River at Kingston Mines. On May 23, 1943, the maximum discharge was 83,100 C.F.S. and the maximum gage height 26.02 Ft. (454.0 M.S.L.). On March 24, 1979, the maximum discharge was 72,300 C.F.S. and the maximum gage height 25.22 Ft. (453.2 M.S.L.). A difference of 10,800 C.F.S. but only .8 Ft. in elevation. We understand that when the river stage reaches 456 - 457 M.S.L., in Peoria, every 5,000 additional C.F.S. raises the river nearly one-foot.

Should the same 1943 discharge (83,100 C.F.S.) be experienced again in the future, with the proposed levee in place, we are concerned that the additional channel constriction and levee building will cause further flooding problems.

We recommend that the U.S. Army Corps of Engineers and the Illinois Division of Water Resources be asked to address the hydraulic ramifications of the report and that their evaluations be incorporated as an amendment to the final version, and that detail considerations be given to upstream flooding potential.

Sincerely,



Robert L. Pinkerton  
Executive Director

DGM:RLP:jr

RECEIVED  
AUG 15 1983

Illinois Dept of Energy &  
Natural Resources,

E.N.R.

To The Dept. - I want to Thank you for  
Sending The Illinois Land Report On the  
Rice Lake Conservation Area.

Comments to start with - I am opposed to  
strip mining operations from the southern  
edge of The Village of Banner - to Rice  
Lake - through Rice Lake & all of the rest  
of The Ill. River Valley that follows along  
U.S. Route 24 & from there on to The Havana  
junction.

Comments

§ 34 - Erosion - I think we have enough  
erosion problems in Banner Twp - due to  
highway drainage systems & lands that  
have already been mined out.

I have noticed that there seems to be  
some sinking spots on our property  
here in Banner - Cause unknown - Although  
I have in mind that some of it may  
be caused by the strip mining that  
took place east of Banner - known as the  
Banner Marsh area at the present



Time, which may have drained the under  
 water flow from beneath the land and  
 such erosion suggests to me that in due  
 course of time the hill side areas surrounding  
 the river valley would eventually erode toward  
 the lowlands. Therefore U.S. Route 24 being  
 close to the proposed mining site could be  
 undermined by erosion. Also strip mining  
 activities may cause a land slide from  
 the bluff areas. I think it would be more  
 practical to have the over flow river  
 soil fertilize the flood plains instead of  
 promoting erosion from the bluff areas  
 toward the lowlands through the strip mining  
 process. There would be a more profitable  
 land usage over a long period of time  
 from the over flow process than there  
 would be from mining out the flood plains  
 in a short period of time for a profitable  
 purpose only, because there is really no  
 way that reclamation can return the land  
 to its original contour & productivity.  
 I think this is a proven fact by comparing  
 the land that has already been strip mined  
 to what it was before strip mining entered  
 the Banner Twp. & Fulton Co. area.



37- Rice Lake may not be a source for water supply in this area at the present time - But this does not mean that it couldn't be a source of water supply if necessary - also if the lake was dredged out in order to keep deeper channels flowing through the lake, it would also improve fishing in my opinion. One thing they could do with the dredged out lake bottom soil would be to spread it over some of the farm land in the immediate area of Rice Lake.

37- Proposed Levee - Perhaps changing the ~~land~~ flood plain would not have any impact on the stream flow into the Ill. River - But with a levee surrounding Rice Lake it would cause more water during flood seasons to back up on lands above & below the Rice Lake area. The farm land along Copperas Creek, the Village of Banner & possibly Liverpool would be flooded more than usual, and as for a 10-15-100 year flood plan, it may be impractical according to the flood seasons we seemed to go through recently. And with Chicago draining more water into the Ill. River, that wouldn't make the flood situation any better.

I think the whole Ill. River Valley should be declared a flood plain and left intact, as it is, farm land & all, with the exception of taking care of the forest areas for practical & commercial purposes, improving the fishing & hunting capabilities & obtaining the Banner Locks, the private hunting & fishing clubs from Banner to Liverpool as conservation & preservation areas, since these assets were the main points of interest in this area from the past to the present and I see no point in allowing these areas to be mined out for the amount of coal said to underlie Rice Lake - and as for the Dept. of Conservation having the idea that it could manage a man made strip mine ponds or water holes better than a naturally formed lake, this may be true, there wouldn't be too much to manage. Maybe what they should do, would be, to improve the Dept. of Conservation. Also I have a question & suggestion for the Banner Marsh Land acquired by the Dept. of Conservation.

Why use it for a play ground or a zoo? It certainly doesn't remind me of either & Rice Lake most certainly isn't a good trade off for the mined out Marsh Land regardless of the amount of cash the Dept.



Of Conservation expects to receive from the mining Companies. I also think The Banner Marsh area would make a good place for a fish hatchery or fish farming on a Commercial basis, either privately or by The St. Dept. of Conservation. After all with the price of food going up & the population growing & fewer jobs for the unemployed a little fish farming might help feed some of those un-employed people. And if it was on a private Commercial basis it might reduce the price of fish at a fish market or Super market that sells fish. This is a practical analysis for the Banner Marsh area.

Another suggestion - They could take the Levee down & make some Deep Channels from the River back through the Marsh area, thereby reducing the volume of water that over flows below the levee & backs up Copperas Creek.

I think these ideas would be more practical & perhaps more costly - but I think it would serve a better purpose than what is proposed for the Banner Marsh area. The Banner Lake area with a few improvements could & should be used for public access to the river for boating, since there is no



4

other river access point in the immediate area. Several years ago people in this area went to The Locks for picnics & recreation.

And another suggestion - The Barren Locks could be used as a shipping point where farmers could ship their products to market.

pg 62 - Mentions a decrease in demand for high Sulphur Coal & farm equip. -

I think strip mining has reduced the sale of farm equipment in farming areas. Strip mining should only be allowed in places that aren't productive in food, forage, water supplies and the like. These productive areas should be the last resources lost to the mining industries, regardless of employment. Strip mining companies shouldn't strip an area of its best & long lasting resources in order to provide jobs for the miners & to fatten the mining purse.

I don't think its good planning ecologically, financially or geologically for any area.

pg-X-54 - Says the amount of property taxation in Fulton Co. has been relatively constant & surface mining has not altered that trend.

I don't understand just what that means. For some reason or other property Taxes keep on rising for the farmers, home owners & businesses. They certainly haven't remained the same & the land that has been stripmined doesn't have the value that it had before it was stripmined - where as the County continues to increase their expenditures for schools, County offices etc. Therefore where does that Tax money come from to cover the Taxes lost on mined out land?

Of course State properties don't pay Taxes to the Counties or Townships where in such properties are located. I think a good way to solve that problem would be for the Townships to collect a percentage of the intake on State properties to help cover their loss in Tax revenues. This idea would be better than losing \$29,000 to \$31,000 per year as a post mining loss.

A well run Conservation area should be able to contribute a percentage of their intake to the County & Townships where in such properties are located - since such State properties actually remain in the County & Townships where they are located. They just can't pick such properties up



and more than some place else for state convenience & tax dodging. - Of course this is carrying this statement a little too far. But I think Banner Twp. ought to receive some revenue from the State properties located in this Township.

There are more people from other areas that come to Rice Lake & the other Private hunting & fishing Clubs than there is people in Banner Twp. - When such properties are actually properties in & of this Township & have been since the Township was formed & before - Therefore I don't see why Banner Twp. can't receive some revenue from their properties lost to the St. of Ill. in the form of a percentage on the revenue collected at Rice Lake on any other State properties located in this Township.

Pg 11-24 - Euro-American History - pertaining to who settled Banner Twp.

It seems rather unusual that great detail is given about the geological & archaeological structures & findings of the mid-western U.S. from 10,000 B.C. to the present time & then not have any specific knowledge about who settled in Banner Twp & who the early settlers were. I don't imagine any of the



settlers would have settled on the lake itself for building purposes - Although I expect some of them would had title to it.

Therefore this poses a question - Does the Dept. of Conservation actually have a legal title to all of the Rice Lake area. - & if so how did they obtain it & how much did they pay for the Rice Lake area?

Also was Fulton Co. & The Banner Twp area included in the military tract?

V-22 - Says the Ill. River provides plentiful surface water & ground water supplies at all times & for this reason Rice Lake & other nearby lakes are not needed for water supply purposes. Comment - I disagree with this - They need a water supply for the ducks, geese, & fish that populate the lakes areas - Also in a extra dry season, abundant water supplies could be used for irrigation purposes if necessary.

X-21 - Recreational use & value - Rice Lake. Don't need horse trails & hiking - It's a fishing & hunting area - not a type of play park - I don't think Rice Lake or any other similar areas should be regarded as an economic impact on the economy. My reasons for thinking this would be, that such areas may

Some times have a large attendance & income  
 & some times small attendance & income. Therefore  
 The economic statistics really wouldn't mean  
 much compared to the actual value of such  
 lands, lakes etc, I think its some what of a  
 different economy if one wanted to put it  
 under an economic basis, than other factors  
 in the so-called economic world of statistics.  
 I think the main statistics of an area like  
 the Ill River Valley, including Rice Lake &  
 the other lakes in the vicinity, the trees,  
 scenery, fishing, hunting & farming for  
 recreational & commercial purposes is not  
 how many jobs such areas can provide,  
 nor is it how much money can be derived  
 from these areas - because if everything was  
 based upon these factors, there would be  
 a lot of scenic, recreational & forest lands  
 that wouldn't exist - because some economic  
 nit-wit would have them all covered up  
 with industry for economic purposes.  
 I think it should be taken into consideration  
 which is actually the most valuable to the  
 people of this area, now & in the future, over  
 a long period of time instead of on a  
 short range basis.  
 I also don't think we need a computer to



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tell us about Rice Lake visitors expenditure patterns - Some people evidently think if there's not a lot of money involved in every thing then it's no good.

B-3 - Question - Why would the Federal Government not include strip mining in its environmental impact statements? It would seem like strip mining would be one of the main industries that would be under environmental laws - pertaining to land & water resources.

B-10 - Fulton Co. flood plain ordinance.

It says the ordinance does not make any statements regarding areas where development cannot take place, only defines those areas for which a permit must be received.

Comment about this - Personally I think the ordinance should have read - Should not take place - also any one building in a flood zone after the ordinance was passed - would not be eligible for flood insurance - They would build at their own risk & not be compensated for flood damages.



Comment pertaining to coal thickness as indicated in numerous located areas - according to the land report - There is only one place where the coal vein runs over 3.5 ft.

I think that's a small vein of coal to dig up the whole Ill. River Bottom for.

Why bring destruction on Rice Lake & the farming areas for that amount of coal?

Of course it may be a lot of tons but not worth what the land & the lake is worth without being mined out.

It is my opinion there would be a lot of side effects in these areas, including the Village of Barron & outside of Barron - which wouldn't be to the best interest of the people living in this area & it wouldn't be to the best interest of the people who make use of the Rice Lake hunting & fishing area.

Thank you for your time in reading this.

Mildred A. (Romine) Williams

R#3

Canton, Ill - 61520

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REF-1

REF-2



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TELEPHONE INTERVIEWS

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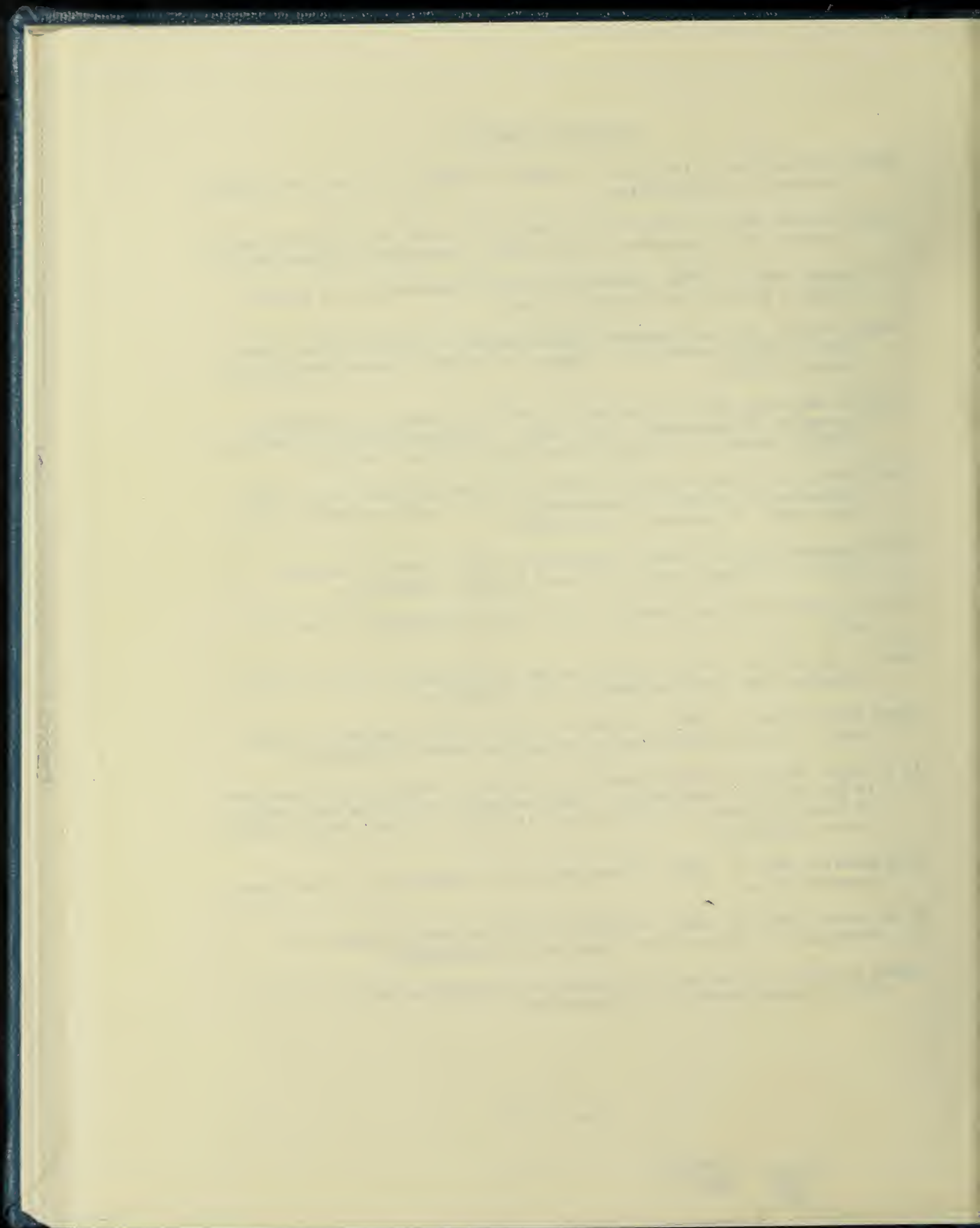
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#### TELEPHONE INTERVIEWS

- Kathy Andrews; May 6, 1983, Data on number of campers at Rice Lake annually. Department of Conservation.
- Kathy Andrews; May 12, 1983, Data on Fiscal Years 1981 and 1982 Department of Conservation expenditures for Rice Lake. Department of Conservation.
- Bill Arndt; June 9, 1983, Information on police departments and sheriff office. Fulton County Sheriff Office.
- Warren Baxter; Assistant Regional Superintendent of Schools Fulton County, June 9, 1983, Information on numbers of students, school districts and school closings.
- Frank C. Bellrose; April 25 and May 12, 1983, Information on waterfowl resources and management at Rice Lake. Principal Scientist, Section of Wildlife Research, Illinois Natural History Survey, Havana.
- Neil Booth; Rice Lake Conservation Area Site Superintendent; May 3, 1983, Discussion of numbers and percentages of Rice Lake visitors from the local area. Department of Conservation.
- Gene Burchett; June 20, 1983, Information on fire protection in Fulton County. Emergency Services Disaster Director, Canton, IL.
- Fulton County Dept. Public Health; June 9, 1983, Information on hospital care.
- Miny T. Lee; May 10, 1983. Information on the percentage clay in Illinois backwater lake bottom sediment. ISWS, Champaign.
- Frank Lewis; June 20, 1983, Information on public water systems in Fulton County. Illinois Environmental Protection Agency, Springfield,
- L. M. Page; June 16, 1983, Information on crayfish distribution and abundance in the Illinois River system. Fish Taxonomist and Acting Head, Section of Faunistic Surveys and Insect Identification, Illinois Natural History Survey, Champaign.
- Dave Roberts; June 21, 1983, Information on road conditions. Illinois Dept. Transportation.
- R. E. Sparks; June 15, 1983, Information on Fulton County property tax assessments. Fulton County Supervisor of Assessments.
- Vernon Thompson; Fulton County Supervisor of Assessments; March 21, 1983, Fulton County property tax assessments.













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